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THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 20 Cents

VOLUME 86, No. 24 | 535 North Dearborn Street, CHICAGO, ILL. | JUNE 12, 1926

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Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized on June 14, 1918. If undeliverable, return postage is guaranteed

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The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 86, No. 24 CHICAGO, ILLINOIS JUNE 12, 1926

DIAGNOSIS IN ORTHOPEDIC SURGERY *

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BOSTON

The orthopedic surgeon of today is well trained in the application of therapeutic measures to prevent and relieve deformity, but he is often faced with problems which have not been properly solved or which have been solved only after considerable injury has been done to important structures and he is expected to do the impossible in the restoration of function. Some of the reasons for this are wrong diagnosis, late diagnosis, snap diagnosis or the diagnosis of hysteria.

Musser [1] says, "Success in treatment requires both accuracy and completeness in diagnosis," and "Partial knowledge of a case differs in degree only from ignorance." To my mind these two sayings are as true today as they were twenty-five years ago, and they should make us pause and ask ourselves whether or not we are endeavoring to do everything in our power to locate and discover the trouble with many of our patients in order that they may get the benefit of the best modern knowledge.

Most weaknesses in solving problems in diagnosis are due to:

1. Bad elementary training.
2. Insufficient knowledge of the fundamental subjects in medicine.
3. Lack of proper hospital training.
4. Incomplete physical examinations.
5. Failure to make a thorough search for the cause of the ailment.
6. Premature selection of a specialty.
7. Dependence on the roentgen ray alone.

1. Bad elementary training begins with the child's early education, and the results apply not only to medicine but also to any other occupation that the person may select. Those of us who come in contact with medical students realize early that there are two outstanding things in which they appear to be deficient: First, they lack the faculty of making accurate observations, and, second, they lack the ability to reason or think out their problems in a straight and logical manner; on the other hand, their memories for a short period of time are usually good. It is rather late, when a student enters on a professional career, to expect his teachers to train him to study, observe and reason if he has not been taught to do so before. When he arrives at the clinical part of his course he is more or less deficient in those basic fundamentals which are so essential in making a diagnosis; i. e., the power to observe and reason.

2. Making an accurate diagnosis of many orthopedic conditions is based on a sound knowledge of anatomy, physiology and pathology. In fact, nearly all orthopedic conditions are due to pathologic disturbances of structure and function. How many third and fourth year medical students are there who can name, locate and give the function of the principal muscles which control the ankle or hip joints? Is it not possible to obtain a closer association of these subjects and the clinical subjects in the medical schools?

3. Does the average intern in the average hospital receive any systematic training, from members of the visiting staff, in the art of examination and diagnosis? Is it not a part of our duty to see that the young men who come to us for help and inspiration are properly trained?

4. Most orthopedic problems are individual; therefore, each patient should be considered as a health unit and examined accordingly. Too many are satisfied with making an examination of the local condition when a more searching one would have revealed, perhaps, the key to the local disease. If we are not competent to do all that a complete examination involves, we should at least have sufficient knowledge so that the patient may be referred to some one who is capable of doing what is necessary.

5. Many diseases are easily diagnosed, but successful treatment often depends on finding a cause. Arthritis is an example. Of course, there are a great many diseases whose causes are unknown and can be determined only by persistent research.

6. Premature selection of a specialty is not uncommon among medical students. Many of them, early in their medical course, determine on the special line they wish to pursue, and, having made their selection, the inclination must be for them to neglect important courses, not realizing that every specialty in medicine may often be interlocked with some or all of the others. The result of this must be to produce a man with very narrow limitations in his line because much that is fundamental has been cast aside. How can one educated in this way become a good diagnostician?

7. Depending on the roentgen ray to make a diagnosis is a fault in a good many clinics and has been the cause of a good deal of harm. In the first place, pathologic changes may be present for many days or even weeks before the roentgen ray will reveal them. In the second place, there are so many lesions that give similar appearances in the roentgenogram that a proper diagnostic interpretation cannot be made. The roent-

* Chairman's address, read before the Section on Orthopedic Surgery at the Seventy-Seventh Annual Session of the American Medical Association, Dallas, Texas, April, 1926.

1. Musser: Medical Diagnosis, ed. 2.

gen ray is a valuable aid in diagnosis; so is the clinical thermometer; but no one would think of depending on this for a diagnosis.

Hysteria as a diagnosis is a very dangerous one to make, and the burden of proof should fall on the one who makes it. Many patients have this diagnosis thrust on them as a result of a poor examination or an improper assembling of pathologic data. The following is a case in point:

M. B., a girl, aged 16, seen in September, 1925, had had a difficult birth with instruments, and began walking at the age of 2 years. It was noticed that she had difficulty in using the left arm and leg. She did fairly well up to the age of 13, when she fell, striking her head; she was not unconscious, but there were contusions on the head. The right side became affected after the fall, and the left side was worse than formerly. There was some disturbance of sensation and some loss of control of the bladder and rectum. Sensation had gradually improved, and control of the bladder and rectum had returned. Examination showed a quadriplegia more marked on the right side, bilateral equinus, and some contracture of the shoulders and wrists. There were definite sensory disturbances in the legs. The eye grounds and eye reflexes were normal, the abdominal reflexes absent, all tendon reflexes increased, bilateral Babinski and ankle clonus present. Roentgen-ray examination showed an old fracture of the odontoid process, with a slight backward displacement of the first cervical vertebra. Combined puncture showed no block in the cerebrospinal canal. The basal metabolism was —41 per cent. There was normal mentality for the age of 16, but the patient's size was that of a child of 9. The roentgen-ray report was, old injury of the cervical spine. The clinical diagnosis was paralysis resulting from an old injury to the cervical spine. The admitting diagnosis was hysteria.

Making a snap diagnosis is an error into which we may fall, and is oftener wrong than right. It is made usually after a very superficial examination or none at all. The most to be said for it is that it is dangerous and not fair to the patient.

Inability to make a diagnosis may be due to absence of localizing symptoms, an atypical cause of a disease, or lack of knowledge of the nature of the disease.

Late diagnosis is often dependent on a lack of scientific knowledge, improper preparation of a case, insufficient data, inability to assemble facts, lack of cooperation by the patient, or carrying out expectant methods too long before reviewing developing signs and symptoms. A diagnosis of joint tuberculosis is made quite often, on symptoms and a few signs, and the patient is so treated over a long period because some one has said that in obscure joint affections a guess on tuberculosis would be right 80 per cent of the time. Are we justified in treating the other 20 per cent as tuberculosis?

Early diagnosis should be our aim, and everything should be done to convince the patient that he will be spared pain, deformity and long drawn out treatment if he will cooperate with us.

There are four diseases which are often diagnosed late and which supply us with more cripples than all the other orthopedic conditions combined. They are acute osteomyelitis, acute poliomyelitis, bone and joint tuberculosis, and chronic arthritis.

Acute osteomyelitis is usually diagnosed as "acute rheumatism" or acute lymphangitis, and is allowed to go on until the patient becomes seriously ill and great bone destruction takes place. The diagnosis must be made on the history, the general and acute local symptoms present, which are out of all proportion to the extent of the lesion, the white blood count and loss of function. Roentgen-ray findings are of no value.

Poliomyelitis usually is seen late by the orthopedic surgeon; but since the deformities caused by this disease may be disabling, we as a group ought to be interested in putting out propaganda for diagnosis in the pre-paralytic stage, because in most cases this can be made. Pathologically, the meninges are the tissues that are primarily invaded, and the early signs are mental irritability, stiffness of the neck, and headache. These, when associated with signs of constitutional disturbance, should lead one to do a lumbar puncture. Lumbar puncture not only confirms the diagnosis but probably has a therapeutic value. The following case is illustrative of this point:

E. L., Sept. 7, 1925, complained of severe headache, fever, and soreness of the legs, of fifteen hours' duration. The temperature was 102; pulse, 100. General examination was negative except for a slight tenderness of the lower extremities, a little stiffness of the neck, photophobia, and a questionable Kernig sign. The knee jerks were hyperactive. Lumbar puncture showed the spinal fluid under considerable pressure, a cell count of 600, and no organisms. The next morning the temperature had dropped, and the headache had nearly gone. There was a slight rise in the afternoon temperature, but no more headache. The diagnosis was poliomyelitis. No paralysis developed.

The problem of arthritis has not been solved, but the percentage of cases relieved at the present time is a great deal higher than it was ten years ago. We should have no sympathy for those who place this disease in the large group of the incurable without making any effort to attempt a cure. Too often are the prodromal signs and symptoms ignored or treated with a few doses of acetylsalicylic acid when active measures will check them or even result in a cure. Patients who complain of soreness in their muscles or slight early morning stiffness in a few joints should not be put off with reassuring advice but should at once be shown the urgent necessity of a thorough and complete examination in order to locate the source of their troubles. Since the beginning of the theory of focal infections, many patients with arthritis have been cured; but our examination should not stop with infected teeth and tonsils. The examination should include the metabolism rate, teeth, tonsils, sinuses, genito-urinary tract, throat, ears and chest, and a great deal of attention should be paid to the gastro-intestinal tract. Barium meals may be necessary, an examination of the stools should always be made, and we shall be surprised to find how many of these arthritic patients have a mild, low grade constipation which, when properly treated, often results in a disappearance of arthritic symptoms.

J. F., seen in October, 1923, had had slight discomfort in both knees for one year and had an area of tenderness over the medial aspect of both knees. The knees had never swelled. The patient had a sensation of stiffness in the ankles, elbows and fingers at times in the morning. Examination of the knees showed nothing abnormal except in the infrapatellar fat pads, which were thicker than normal. All other joints appeared to be normal. The abdomen was low and prominent. A general medical examination was advised. This was not done until January, 1924, and revealed nothing abnormal except marked constipation. At that time there was considerable pain and swelling in both wrists, the tendons and joints being involved. There was pain in both elbows, which were sensitive on extreme extension. The teeth and tonsils were normal. In April, pain and swelling developed in the ankle joints, shoulders, neck and knees. The arthritis was completely relieved by a low carbohydrate diet, oil cathartics, intestinal massage and irrigations.

If this patient had cooperated during the early part of her attack and vigorous measures had been pursued, she would no doubt have saved many months of treatment and disability.

Bone and joint tuberculosis can be diagnosed early in a very high percentage of cases. Many joint conditions are diagnosed tuberculous, and are so treated over a long period. Such cases are often presented at clinics as cures, but when some one present wishes to know how the diagnosis was made, an embarrassing moment ensues if we are honest.

It has long been taught that positive proof of tuberculosis is made only when pus or fluid obtained from the affected area shows the tubercle bacillus, or material obtained shows under the microscope a lesion characteristic of tuberculosis, or suspected material injected into a guinea-pig produces tuberculous lesions. When joint tuberculosis is suspected, a thorough history should be taken and an examination made to determine whether or not there is a primary focus, it being remembered that tuberculosis is primarily a disease of the lymphatic system. Such an examination should include a roentgen-ray examination of the chest, a tuberculin intradermal test, and also a focal tuberculin test; roentgenograms of the joints should be taken, and when the evidence is not sufficient, a biopsy should be done. In doing a biopsy a generous amount of pathologic tissue must be removed from the affected area, sectioned very carefully, and many sections should be searched for the presence of tubercles. Some of this tissue should be thoroughly macerated and injected into the subcutaneous tissue of the thighs of two guinea-pigs (one pig may die before tuberculosis develops). This method will diagnose very early a great many doubtful cases and is preferable to expectant methods which must necessarily cover long periods of time and often cause considerable injury to tissues as a result of long immobilization. If the lesion is tuberculous the joint may be treated by heliotherapy with an earlier resumption of function or in adults an excision or fusion may be done.

J. E. S., aged 48, seen in May, 1919, had had trouble with the left knee for fifteen years. Six years before examination a cast had been worn for four months, and the patient had never been able to walk without a cane since that time. Examination showed a very tender knee permanently flexed at 45 degrees with moderate swelling and muscle spasm, and no motion present. Roentgen-ray examination was negative. The patient was treated in a traction knee splint with considerable relief for four years. Roentgenograms taken at intervals were always negative. The patient reported in October, 1923, that for the past few months the symptoms had increased and become more acute. The patient consented to have the knee operated on. October 17, 1923, the knee joint was opened by a U-shaped incision. The capsule was dense, thick and fibrous; fibrous adhesions were present throughout the joint. These adhesions were broken up, and a small tuberculous cavity containing tuberculous pus was found in the center of the lateral condyle of the femur. A formal excision was then done. The patient made an excellent recovery and has remained well ever since.

If that knee had been treated by modern methods, the joint would have been explored, an early diagnosis made, and years of suffering and disability would have been prevented.

My final plea is for better medical education, more progress in general medical teaching, more complete physical and chemical examinations, and an endeavor on our part to make our diagnosis as early in the course of disease as possible.

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TYPES OF NEUROSYPHILIS IN RELATION TO TREATMENT *

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It is a well established fact that syphilis of the nervous system varies in the widest possible manner in its amenability to treatment. At one extreme we have those cases of neurosyphilis in which the spinal fluid becomes completely and permanently negative after a few intravenous injections of arsphenamine, and sometimes even spontaneously without treatment; while at the other end of the scale stand those cases which prove intractable to all ordinary methods of antisyphilitic treatment, and which in general develop sooner or later into outspoken cases of tabes or general paralysis. Now it is not too much to say that some years ago—before the introduction of intraspinal therapy and its modifications in the form of intracisternal and intraventricular injections,[1] and especially tryparsamide [2] and the malaria treatment [3]—it was not of especial practical importance to discriminate between these two broadly divisible types of neurosyphilis; for the vast majority of cases of the completely refractory type were doomed from the outset, so that their nonrecognition could usually in no way prejudice their ultimate outcome, while the patients of the less intractable type, on the other hand, could in most instances be counted on to do well under routine (intravenous) antisyphilitic therapy. But the advent of new and more efficient methods of treatment would seem to place the matter in a rather different light. For, if advantage is to be taken of these newer methods, it becomes of the highest practical importance to identify at the outset those very cases of neurosyphilis which formerly resisted all therapeutic efforts of a less intensive character, but which can now be handled with some real degree of success by means of these more effective methods of treatment.

If it be granted that such a necessity as this has come into being, it only remains to consider the means of recognizing the cases of neurosyphilis for which ordinary treatment will probably prove useless. It is not here a question of the diagnosis of syphilis in a given patient, nor even of the diagnosis of neurosyphilis itself, for failure in either of these two respects does not come within our present purview; our problem deals only with the patient in whom syphilitic involvement of the nervous system is known to be present, the question being: What, then, is the proper treatment for that patient?

It might here be well to state that the subjoined remarks are made from a single restricted point of view—from the point of view, that is, of one who has had occasion of late to treat numerous cases of outspoken general paralysis in which the existence of neurosyphilis had previously been proved, but for which nothing had then been done that might have been successful in preventing the evolution of an asymptomatic case of neurosyphilis, or of an early case of general

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1. Solomon, H. C.: The Treatment of Neurosyphilis, Pennsylvania M. J. **25**: 236 (Jan.) 1922.

2. Lorenz, W. F.; Loevenhart, A. S.; Blackwenn, W. J., and Hodges, F. J.: The Therapeutic Use of Tryparsamide in Neurosyphilis, J. A. M. A. **80**: 1497 (May 26) 1923. Stokes, J. H., and Wilhelm, L. F. X.: Tryparsamide in the Treatment of Neurosyphilis: A Study Based on Observation of One Hundred and Fifty-Two Patients for Eighteen Months, Arch. Dermat. & Syph. **11**: 579 (May) 1925.

3. Gerstmann, J.: Die Malariabehandlung der progressiven Paralyse, Vienna, 1925. Bunker, H. A. Jr., and Kirby, G. H.: Treatment of General Paralysis by Inoculation with Malaria: A First Report, J. A. M. A. **84**: 563 (Feb. 21) 1925.

paralysis, into a fully developed example of that disease, as the cases presently to be cited will serve to illustrate.

For the purposes of the purely practical discussion here in question, let us dispense in the first place with all attempts at distinguishing between the parenchymatous and the meningovascular forms of neurosyphilis; for these are terms based on the data of pathologic anatomy, and have no very immediate cogency from a clinical and therapeutic standpoint. It should be remembered in this connection, for example, that just as disturbance of the pupillary reaction to light, or indeed the Argyll Robertson pupil itself, may be present in any form of neurosyphilis, so likewise the symptoms presented by the patient often similarly fail to serve as a basis for distinguishing between meningovascular and parenchymatous involvement of the nervous system. For we do not know the pathologic condition that specifically lies back of the individual symptoms that these various patients present; we cannot prove a correlation between the symptoms and the structural changes present in the meninges and the nervous tissue. We can only say, as Dunlap [4] has carefully stated it, that a meningitis—differing in certain details, it is true, but similar in its essential characters—is common to both the meningovascular and the parenchymatous types of cases; and that this may perhaps be in part the reason why the symptoms themselves offer no criterion for clinical differentiation. In illustration of this may be mentioned the symptoms that I [5] recently enumerated as characterizing the earliest onset of general paralysis in a series of cases of that disease: hardly one of the symptoms there described but might equally well be observed in patients with a meningovascular rather than a parenchymatous form of neurosyphilis.

If the symptoms of the patient are often of little avail in making a differentiation that is based on histologic grounds, the same may be said of the spinal fluid findings, for these offer, in and of themselves, no very certain indication of the character of the neurosyphilis with which we are dealing. Speaking very generally, it may be said that a Wassermann reaction that is negative in 0.2 cc., and particularly in 0.5 cc., of spinal fluid tells fairly strongly against the paretic form of neurosyphilis, at least in cases previously untreated; but the converse is not necessarily true. Moreover, many cases of tabes, as is well known, may at some stage of the disease present a weakly positive or even a wholly negative Wassermann reaction in the spinal fluid. And it might be added that a colloidal gold curve of the nonparetic type speaks more strongly against a diagnosis of general paralysis, as Solomon [6] was among the first in this country to point out, than does a curve of the paretic type speak necessarily in favor of that form of neurosyphilis or against the presence of the meningovascular type of the disease; yet this rule, too, is not altogether without exceptions.

The clinical differentiation, then, between the meningovascular and parenchymatous forms of neurosyphilis not only often offers considerable difficulty, even to the point of being sometimes quite impossible during life, but, considered from the strictly practical standpoint of the proper treatment of the neurosyphilitic patient, is not needful and serves no end that cannot better be met by other means. For what I hope to make clear is that from this single therapeutic standpoint the nomenclature employed is unimportant in comparison with the necessity for controlling the treatment of the neurosyphilitic patient at all stages by repeated examination of the spinal fluid. In other words, it does not here much matter what nosological type of neurosyphilis—meningovascular or parenchymatous, mesodermal or ectodermal—the patient is suffering from, and what label we may elect to apply to it; what does matter is whether our treatment is proving efficient in the given case of neurosyphilis, regardless of its label, as indicated by a definite and progressive effect on the spinal fluid abnormality. Nor can this crucial point be determined without the repeated examination of the spinal fluid, as treatment proceeds, to which reference has just been made. Indeed, one might say that, in the treatment of the neurosyphilitic patient, a single spinal fluid examination is of about as much significance as a single temperature reading in an acute infection would be.

ILLUSTRATIVE CASES

In illustration of the necessity for such a procedure, and of what may happen when it is not carried out, may be cited briefly the following four cases:

CASE 1.—There was a chancre in January, 1916, followed by secondaries; five injections of arsphenamine and six mercury treatments were given. The patient had headaches in April. Lumbar puncture yielded 700 cells. The Wassermann reaction was strongly positive. Nine arsphenamine treatments were given. In August, 1916, there were 180 cells, and the Wassermann reaction was strongly positive. Objectively, there was involvement of the second nerve bilaterally and eighth nerve unilaterally. Thereafter more than 150 arsphenamine injections were given intravenously. There were mental symptoms in August, 1923. The patient was committed in January, 1924, with general paralysis.

This patient was early found to have neurosyphilis, which might have been considered by the subsequently published criteria of Moore [7] to be of the parenchymatous type, especially in the light of the spinal findings still present on the occasion of the second lumbar puncture. Seven years later the patient did actually develop an undoubted case of general paralysis, which the rather large amount of routine intravenous medication he received had been powerless to avert. This would indicate that, even if, for the protection of the patient, a probably highly resistant form of neurosyphilis had not at the beginning been assumed to be present until proved otherwise, a third lumbar puncture done at the end of six months would have undoubtedly revealed the fact that the treatment employed, though effective against the symptoms, was having little or no influence on the spinal fluid findings. And this, by the way, is suggestive of how misleading and of little value symptomatic amelioration may be in the absence of concomitant improvement in the spinal fluid picture. Indeed, it has been our frequent observation that patients with fully developed general paralysis, even, may experience a temporary improvement and arrest of their symptoms under intravenous treatment with arsphenamine; but the latter exerts little or no influence on the spinal fluid abnormality in such cases, and in fact the symptomatic improvement is sooner or later succeeded by relapse and the subsequent commitment of the patient.

CASE 2.—There was a chancre in September, 1917. The patient had a slight sore throat. Neo-arsphenamine, twelve

4. Dunlap, C. B.: Anatomical Borderline Between the So-Called Syphilitic and Metasyphilitic Disorders of the Brain and Spinal Cord, Am. J. Insanity **69**: 1045, 1913.

5. Bunker, H. A., Jr.: Incipient General Paralysis: A Study of the Earliest Symptoms Presented by Seventy-Four Cases, Am. J. M. Sc., to be published.

6. Solomon, H. C.; Koefod, H. O., and Welles, F. S.: Diagnostic Values of Lange's Gold Sol Test, Boston M. & S. J. **173**: 956, 1915.

7. Moore, J. E.: Studies in Asymptomatic Neurosyphilis, II, The Classification, Treatment and Prognosis of Early Asymptomatic Neurosyphilis, Bull. Johns Hopkins Hosp. **33**: 231 (July) 1922.

treatments, and mercury, eight, were given. No further treatment was administered till December, 1922. At that time the patient presented somewhat sluggishly reacting pupils; diminished and unequal knee jerks; absent right ankle jerk, and absent abdominals. The patient was given neo-arsphenamine, ten treatments, from January to April, 1923. There were beginning mental symptoms from January, 1923, but grossly from January, 1924. Lumbar puncture in March, 1924, yielded 50 cells. The Wassermann reaction was strongly positive in 0.6 cc. and moderately positive in 0.4 and 0.2 cc. The gold curve was of the paretic type. The patient was committed, April 29, 1924, with general paralysis.

In this case the diagnosis of neurosyphilis through the help of a spinal fluid examination was not made until fifteen months after the discovery of highly suggestive neurologic signs in a known syphilitic patient, and one year after completing a course of ten intravenous injections of neo-arsphenamine. When treatment was then resumed, it was still intravenous only and was shortly interrupted because the patient was then almost on the verge of commitment.

CASE 3.—The patient had a chancre in 1908. Two years' treatment with mercury was given. In 1919, twelve treatments with arsphenamine were given. In September, 1922, the pupils were markedly unequal, and the spinal fluid showed a high cell count. The Wassermann reaction was strongly positive, and there was a paretic type of gold curve. Thereafter till November, 1923, eight intraspinal injections of neo-arsphenaminized serum were given. There was improvement in weight and in general well being, "but there was never any change in the spinal fluid serology." There was a slight but rather definite personality change in June, 1923. The patient abandoned treatment in November, 1923, but reappeared in March, 1924, with marked loss of weight. The patient refused intraspinal treatment, but took sulpharsphenamine twice weekly until May, 1924, with physical improvement. There were definite mental symptoms in June and July, 1924. The patient was committed, Aug. 26, 1924, with general paralysis.

This case, well handled so far as the patient made it possible, carries the argument one step further. It is to be noted that eight treatments by the Swift-Ellis technic carried out at (presumably) three week intervals were without influence on the spinal fluid picture, a fact in itself pointing to a probably obstinate type of nervous system involvement, subsequently confirmed by the later appearance of unmistakable general paralysis. This situation would accordingly seem to call for the adoption of one or more of the four following procedures: continuation of the Swift-Ellis technic but at shorter intervals, its supplementing with intracisternal injections,[7] a thorough trial of tryparsamide, and treatment with malaria. Indeed, I believe it not too radical, in view of the time-conserving nature of the malarial treatment, it being completed within two weeks, to employ that mode of therapy at the outset in patients in whom the persistence of strongly positive spinal fluid findings after a thorough trial of arsphenamine intravenously makes the presence of a refractory form of neurosyphilis distinctly a possibility. For, although it is true that the malaria treatment influences the spinal fluid abnormality either little or only very gradually,[8] its effect on the underlying disease is in many cases undoubtedly considerable;[9] and this effect is brought to bear with such economy of time as to allow the more ample opportunity for the subsequent use of more protracted modes of treatment, such as tryparsamide and intraspinal injections.

8. Bunker and Kirby (footnote 3). Kirby, G. H.: The Effect of Malaria upon the Spinal Fluid Findings in General Paralysis, unpublished.
9. Bunker, H. A., Jr., and Kirby, G. H.: Treatment of General Paralysis by Inoculation with Malaria: A Second Report, in preparation.

CASE 4.—Within two years of a chancre there was an attack of unconsciousness, the spinal fluid showing many hundred cells and a positive Wassermann reaction. Three years later there were Argyll Robertson pupils; the knee jerks were greatly diminished; there were definite ataxia, some speech defect, marked tremor of the circumoral muscles, and some memory defect perceptible to the patient. After a course of intravenous injections of arsphenamine, some improvement in memory defect was alleged by the patient.

In this case the omniscience of "hindsight" is less in evidence, the problem being a present one. This patient exhibits symptoms so suggestive as to place the burden of proof on him who says that he does not present a fairly early case of general paralysis, even in the absence of a spinal fluid examination. Which, then, is the better for the patient: To ignore the possibility that his may be a case of general paralysis, only to discover too late that the process was in fact a "malignant" one; or to treat the patient, beginning now, as though his case were of the "malignant" type, so that if in reality "benign," so much the more readily will some therapeutic result be achieved, while, if "malignant," only in the most intensive treatment possible may hope for a favorable outcome lie?

The deduction that seems inescapable from considerations such as the foregoing is that it is above all important to determine whether the treatment given the patient is accomplishing the purpose intended, regardless of how the case may be classifiable from a purely pathologic standpoint. In other words, it does not practically matter, as indeed we have already said, what nosological type of neurosyphilis the patient is suffering from nearly so much as it matters what answers we can give, in the individual case, to such questions as these: Is the patient receiving the right kind of treatment and the right amount of treatment, as judged by a definite effect on the spinal fluid findings? If this effect fails to come about after a conscientious effort to produce it, is it not time to alter the treatment accordingly—to make it more intensive or to adopt a different therapeutic agent? In case of doubt on the score of the sufficiently favorable response of the patient, should it not be assumed for his protection that he presents a refractory form of neurosyphilis for which more active therapy is needed, until the contrary can be proved?

Speaking concretely, a patient known to have neurosyphilis (whether asymptomatic or not) should receive a course of at least twelve weekly intravenous injections of arsphenamine or of neo-arsphenamine. At the end of such a course it is absolutely necessary to discover what effect this minimum treatment has had on the spinal fluid. Numerous cases clear up completely under this amount of therapy, or give promise of doing so under some further systemic treatment. Others may show a certain amount of modification of the spinal fluid picture; and here the question whether a course of intraspinal injections or several courses of tryparsamide is not greatly preferable to a continuance of intravenous arsphenamine injections immediately presents itself. Needless to say, rigid control of the treatment by means of repeated spinal fluid examinations remains imperative. Still other cases will show no change whatever in the spinal fluid, so far as the Wassermann reaction and the colloidal gold curve are concerned; and in these it is evident from the outset that the most intensive methods of antisyphilitic treatment will have to be adopted and adhered to. Indeed, there is some reason to believe, as has already been suggested, that in these known pernicious cases two weeks given over to malaria

may be worth several months of the intraspinal or tryparsamide therapy with which the malaria can be immediately followed up.

Stokes [10] has recently spoken trenchantly of the necessity for individualizing the treatment of the tabetic patient. How can it be that the need is less crying for individualizing the treatment of the neurosyphilitic patient in general? If this is done in somewhat the manner that has been roughly indicated in the foregoing, it is not impossible that the more disastrous results arising out of neurosyphilis may be averted more frequently and successfully than is now the case.

SUMMARY

1. The differential diagnosis between the meningovascular and parenchymatous types of neurosyphilis is often difficult and sometimes impossible; for the symptoms (if present) may not infrequently fail to serve this end, while the spinal fluid findings provide evidence that may or may not be of value.

2. From a practical standpoint, however, the nomenclature employed is quite unimportant in comparison to the necessity for controlling the treatment of the neurosyphilitic patient by means of repeated examinations of the spinal fluid. For the disappearance merely of the symptoms does not represent the end sought for if the spinal fluid findings continue positive; neither symptoms nor pathologic condition of the spinal fluid must remain present if the actual aim of therapy is to be achieved. And if such a result is not being brought about by the method of treatment in use, then that treatment is obviously not the right treatment for that particular case, and must be changed either in intensiveness or in kind rather than adhered to in the face of its proved inefficacy.

3. It is suggested that in at least the serologically intractable cases, the presumable preparetic patients, malaria finds a place as a therapeutic agent of the first rank, since it acts against the neurosyphilitic infection in a definite if little understood manner, and with an economy of time that allows ample opportunity for the subsequent use of more time-consuming specific methods.

10. Stokes, J. H., and Schaffer, L. W.: Clinical Management and Response of Tabetic Patients, J. A. M. A. **85**: 1271 (Oct. 24) 1925.

Relative Value of Various Antiseptics.—The antiseptics tested have included alcohol, iodine, mercuric chloride, mercurochrome, acriflavine, protargol, albargin, gentian violet, neo-arsphenamine, and hexylresorcinol. Pieces of spleen of a freshly killed rabbit were placed one minute in a suspension of *Staphylococcus aureus*, and then put in graded solutions of the antiseptic for twenty minutes. In the majority of instances, particularly in the case of several of the newer antiseptics, bacteria proved decidedly more resistant than cells. The most favorable results were obtained with iodine, mercuric chloride, and neo-arsphenamine. Acriflavine, gentian violet and mercurochrome gave the least favorable results. A second series of experiments was carried out in which the antiseptic was added directly to the plasma culture medium. Inhibition of bacterial growth was seen in dilutions of plasma of 1:30-40,000, while the cells were only slightly damaged by these dilutions. The findings with acriflavine and mercurochrome were quite as unfavorable as in the other tests. In general the tests suggest that in so far as the direct action on cells and staphylococci are concerned, some of the classic antiseptics, such as iodine and mercuric chloride, approach nearer the ideal than certain of the newer preparations, and that neo-arsphenamine might be hopefully employed in generalized bacterial infections as well as in certain protozoan diseases.—Lambert, R. A., and Meyer, J. R.: *Proc. Soc. Exper. Biol. & Med.* **23**:429 (March) 1926.

ADVANCED MENINGOCOCCUS MENINGITIS

TREATMENT BY COMBINED VENTRICULAR, CISTERNAL AND LUMBAR PUNCTURES *

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The introduction by Flexner, in 1907, of a curative serum for epidemic cerebrospinal meningitis has reduced the mortality under the most favorable conditions to a level now variously estimated at from 20 to 25 per cent. This relatively high death rate may be due to three factors: first, extreme virulence of the organism, producing a fulminating meningitis; second, an organism of different type from that used in preparing the antimeningococcus serum, and, third, late recognition of the disease. The latter is certainly the more common, since the fulminating type is rather rarely seen and the standard serums now on the market are polyvalent.

The routine administration of antimeningococcus serum by lumbar puncture has given gratifying results only in early cases. In late cases in which treatment was by lumbar puncture, the mortality has been very high, and in those patients who survive, hydrocephalus and other serious sequelae are comparatively common. These discouraging results are often due to spinal subarachnoid or ventricular block. It is my purpose in this paper to emphasize the value of ventricular and cisternal punctures in advanced meningococcus meningitis, illustrating with a typical case.

Ayer [1] has shown that, without spinal block, 20 cc. of serum introduced by lumbar puncture does not reach the cisterna magna during the period of injection; likewise, 30 cc. of india ink injected into the lumbar subarachnoid space of a cadaver barely blackens the base of the brain. In contrast to these findings, the introduction of a similar amount of india ink by cisterna puncture stains the entire cerebral cortex as well as the basilar cisterna. Since the meningococcus reaches the cerebral subarachnoid space by way of the nasopharynx and involves the spinal canal secondarily, it seems logical to introduce the curative serum by a route that will insure maximal concentration, and maximal distribution over the areas first infected.

Puncture of the cisterna magna gives this optimal route and has been shown to be a safe and efficient procedure in the hands of those who understand the anatomy of the region. We therefore believe that any patient with epidemic meningitis who is not showing satisfactory progress under lumbar therapy should be treated by the introduction of serum directly into the cisterna magna. Indeed, certain authors have suggested the latter procedure as the routine method of treatment for all cases, discarding lumbar puncture as definitely less efficient.

However, it is in the presence of a spinal subarachnoid block, a not uncommon complication in late cases, that cisterna puncture is not only indicated but imperatively demanded. The first application of this method was reported by Wegeforth, Ayer and Essick.[2] Unfortunately, the procedure was used too late in the disease

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1. Ayer, J. B.: Puncture of the Cisterna Magna, Arch. Neurol & Psychiat. **4**: 529 (Nov.) 1920.

2. Wegeforth, Paul; Ayer, J. B., and Essick, C. R.: The Method of Obtaining Cerebrospinal Fluid by Puncture of the Cisterna Magna (Cisterna Puncture), Am. J. M. Sc. **157**: 789 (June) 1919.

to save life. Later, Ayer [1] reported the first successful case in which, as in the one reported in this communication, the patient also developed ventricular infection requiring the intraventricular injection of serum. Subsequently, Mitchell and Reilly [3] reported the successful treatment by cisterna puncture of a 4 months old infant with spinal subarachnoid block. Ebaugh [4] had five complete recoveries in eight cases of advanced meningococcus meningitis. A successful case in which treatment was by cisternal-lumbar irrigation is referred to by Ayer.[5] That cisterna puncture is potentially dangerous is recognized by all, but in the hands of those familiar with the anatomic structures involved, it has proved a safe procedure. This is shown by Ayer's [6] compiled statistics of 1,985 punctures and Ebaugh's [4] later figures of approximately 1,550 personally performed punctures. About 1,000 of the latter are included in the former report. They were performed for a variety of conditions, principally for the treatment of cerebrospinal syphilis and for the diagnosis of spinal cord tumors, only eleven cases of meningococcus meningitis being included.

Ventricular puncture for the introduction of antimeningococcus serum, first brought into prominence by Cushing and Sladen,[7] has proved of great value. In fact, Howell and Cohen [8] now consider this route much superior in infants to the more commonly used lumbar puncture. They also recommend cerebral subarachnoid injections through the anterior fontanel. They show that a large number of apparently cured patients are found, on follow up examination, to develop hydrocephalus.

The use of alternate cisternal and lumbar puncture to prevent subarachnoid block has been suggested by Ebaugh. Combined ventricular, cisternal and lumbar punctures in the presence of both cerebral and spinal block have been used successfully by both Ayer and myself.

A typical example of the complication of ventricular and spinal subarachnoid blocks in an advanced case of meningococcus meningitis with complete recovery and no evidence of hydrocephalus over two and one-half years later is here reported.

REPORT OF CASE

N. M. N., a girl, aged 8, seen June 8, 1923, with an unimportant family history and previous illnesses, was in semicoma, but when aroused was delirious. It was stated that she had been sick only twenty-four hours, but the mother was a Christian scientist, and the illness may not have been recognized until a serious condition developed.

The child was well developed and nourished; she was acutely ill, semicomatose, delirious and very restless. The head was sharply drawn back, the neck held rigid, and the spine kept in a mild opisthotonos position. The neck could not be flexed. Attempts to do so caused the child to scream and draw up the lower extremities. All reflexes were exaggerated. There was a bilateral Kernig sign. A small ecchymotic area, about 1 cm. in diameter, was noted on the right upper eyelid. Petechial hemorrhagic spots were present at the angle of the mouth and over the chest, abdomen and extremities, most marked in the bend of the elbows and knees. The pupils were somewhat dilated, but reacted to light. The child frequently rubbed her hands over her eyes, as if attempting to clear her vision. She was apparently blind, as no reaction was elicited by passing the fingers rapidly in front of the eyes. The ears, nose and throat were normal, except for enlarged tonsils. The tongue was dry coated and deeply furrowed. There was a bilateral cervical adenitis.

Lumbar puncture yielded a definitely yellowish, very cloudy fluid under marked pressure. Throughout the fluid were numerous large flakes of pus, similar to those seen in a thoracic empyema of several days' duration. Globulin and albumin were present in large amounts. Smears showed large numbers of intracellular gram-negative diplococci. The diagnosis of epidemic meningococcus meningitis was confirmed by culture.

On admission, the temperature was 101.4 F., the pulse from 90 to 110, and the respirations, 22. After a lumbar puncture with the withdrawal of 45 cc. of very purulent cerebrospinal fluid, 30 cc. of antimeningococcus serum was administered by the lumbar route. One hour later, the child was slightly more rational, complaining of very severe pain in the head. Five hours later, 30 cc. of serum was given intramuscularly. Codein hypodermically and chloral by rectum were required to control restlessness; 650 cc. of saline solution was given subcutaneously.

June 9, she was still irrational, but understood what was said to her. The temperature was 99, the pulse, 84, and respiration, 18. A slight chill was followed later by a temperature of 101.4 F., pulse, 120, and respiration, 20. Lumbar puncture was done at 11 a. m. The fluid was under pressure, but not so cloudy; 30 cc. of antimeningococcus serum was given. At 7 p. m., the temperature had risen to 104.4, the pulse was 112, and respiration, 20. A lumbar puncture was done, and 40 cc. of yellowish, cloudy fluid under pressure was withdrawn; 30 cc. of serum was given.

June 10, the condition was about the same. The temperature did not drop below 102 F. The patient did not recognize any one, but understood commands. A lumbar puncture was done at 11 a. m., with the withdrawal of 40 cc. of slightly cloudy fluid, with not much pressure; 30 cc. of serum was given. The temperature was slowly rising. The patient cried out on slight motion; she complained of severe pain in the head, neck and legs. At 8 p. m., the temperature was 103. At lumbar puncture, the fluid was not under pressure; it was slightly cloudy, with no organisms in the smear; 30 cc. of serum was given.

June 11, the patient was very drowsy, sleeping much of the time, but cried out at intervals. She was difficult to arouse, and did not respond to commands. The temperature was 104.4 F. The pulse was from 110 to 120, and respiration, 20. Cisterna and lumbar punctures were done at 11 a. m. The lumbar fluid was slightly cloudy and yellowish, with no pressure, only 20 cc. being obtained. No organisms were found on smear. A cisterna puncture with the lumbar needle still in place was done; 30 cc. of very cloudy, opal fluid under marked pressure was withdrawn. Fifteen cubic centimeters of serum was introduced by the lumbar route and 15 cc. through the cisterna puncture. The cisterna fluid differed markedly from that obtained by lumbar puncture and showed many organisms on smear. Both fluids gave a growth on culture. The temperature dropped to 100.8, the pulse to 105, and respiration, 20. The mental condition was about the same. The child was apparently sleeping, but talked almost constantly. At 7 p. m., the temperature was 103.4, the pulse, 120, and respiration, 25. A lumbar puncture, with the withdrawal of 35 cc. of slightly cloudy fluid, was done; 30 cc. of serum was given. No organisms were found on smear, but a culture later showed many colonies.

June 12, the temperature dropped steadily after the last puncture, reaching 99.8. It then rose in spite of the two injections of serum to 105.2. The general condition was unchanged. At 2 p. m., the temperature was 100. A lumbar

3. Mitchell, A. G., and Reilly, J. J.: The Introduction of Antimeningococcus Serum by Cistern Puncture: Report of a Case of Meningococcus Meningitis in an Infant Aged Four Months Cured by This Method, Am. J. M. Sc. **164**: 66 (July) 1922.
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5. Ayer, J. B.: A Brief Review of Certain Mechanical Considerations in the Treatment of Meningitis, New York State J. Med. **24**: 389 (March 21) 1924.
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puncture was done, 40 cc. of cloudy fluid being withdrawn. A smear showed organisms. Thirty cubic centimeters of serum was injected. At 5 p. m., the patient was weaker, and cyanotic under the eyes. A cisterna puncture was done, with the fluid under marked pressure and very cloudy and yellowish. There were many organisms in the smear; 50 cc. was withdrawn and 40 cc. of serum injected intercisternally. Lumbar puncture at the time of the cisterna puncture showed much less pressure, the spinal subarachnoid block still persisting. Twenty cubic centimeters of serum was given in the lumbar region.

June 13, the general condition was slightly better. The temperature dropped to 100 after the cisterna puncture of the previous day. A lumbar puncture at 11 a. m. yielded a cloudy fluid under slight pressure; 45 cc. was withdrawn, and 45 cc. of serum injected. Smears were negative. Cultures showed only two colonies. The mental condition was not improved. At 4: 30 p. m. a triple puncture—lumbar, cisterna and right ventricle—was done. The lumbar fluid was not under pressure and was cloudy; 20 cc. was removed. The cisternal fluid was under pressure, cloudy and yellowish; 40 cc. was withdrawn. The ventricular fluid, obtained by trephining the skull and puncturing the posterior horn of the right lateral ventricle, showed marked pressure after cisternal pressure had been completely reduced; 25 cc. of ventricular fluid was removed; it was slightly cloudy, colorless but showed many organisms on smear. Fifteen cubic centimeters of serum was introduced into the ventricle, 30 cc. into the cisterna magna and 15 cc. into the lumbar space.

The gross appearance of the fluids obtained by the three practically simultaneous punctures was strikingly different, indicating, as had the difference in pressure, that a double block existed. One obstruction was in the spinal subarachnoid space, the other somewhere between the lateral ventricle and the cisterna magna. The temperature rose to 104 during the evening.

June 14, the general condition was much better. The mental responses were more normal. The child was less irritable and slept quite normally. At 1 p. m., the temperature was 99.6. A lumbar puncture was done; there was little pressure of the fluid, which was cloudy; 45 cc. was removed and 45 cc. of serum introduced by gravity. At 7 p. m., the temperature was 101.2. Ventricular, cisternal and lumbar punctures were done. The same difference as on the previous day was noted. Fifteen cubic centimeters of serum was introduced into the ventricle, 30 cc. into the cisterna and 15 cc. into the lumbar space. Cultures of the fluids from all three punctures were negative.

June 15, the patient was fairly comfortable. She talked rationally. At times, she complained of severe headache. The temperature rose to 103.8 during the night, but went down to 102.4 during the day. At 4 p. m., a triple puncture was done. The lumbar fluid was under normal pressure, and slightly less cloudy; no organisms were shown on smear. A culture later showed growth. The cisterna fluid was cloudy, with less pressure than before; there were no organisms on smear or culture. The ventricular fluid was under moderate increase of pressure, slightly cloudy, and showed no organisms on smear or culture. Fifteen cubic centimeters of serum was given into the ventricle, 20 cc. into the cisterna and 45 cc. by the lumbar route.

June 16, the general condition was much improved. The child was rational, but complained of headache, stiff neck and backache. The highest temperature during the day was 103. A triple puncture was done. The 40 cc. of lumbar fluid removed was only slightly cloudy, with no pressure; 30 cc. of slightly cloudy cisterna fluid was present after the withdrawal of the lumbar fluid, but with low pressure. The 30 cc. of ventricular fluid withdrawn was slightly cloudy, with normal pressure. Thirty cubic centimeters of serum was introduced by gravity into the right ventricle; none appeared in the cisternal needle. Twenty cubic centimeters of serum was then introduced into the cisterna magna and 30 cc. by the lumbar route. All fluids were negative on smear and culture.

June 17, the condition remained the same. The temperature dropped during the day to 99. A lumbar puncture was done, with easy withdrawal of 60 cc. of cloudy fluid; 45 cc. of serum was injected. There was very slight growth on culture.

June 18, the patient was perfectly rational; she was still restless and talkative, but slept well. The temperature rose to 103.2, after dropping to 99. A lumbar puncture was done, with the withdrawal of 60 cc. of slightly cloudy fluid; 45 cc. of serum was injected. Cultures and a smear of the fluid were negative.

June 19, the temperature had not risen above 100.6. The neck and back were still stiff. A lumbar puncture was done; 45 cc. of slightly cloudy fluid under normal pressure was removed. No serum was given. The mental condition was normal. The child had the best day since entering the hospital.

June 20, cultures of the fluid removed the previous day were negative. The patient was bright, laughing and talking. The temperature had reached normal.

June 22, she was bright, but complained of pain in the head and both legs. A lumbar puncture gave nearly clear colorless fluid under normal pressure; 45 cc. was withdrawn. The smear and culture were negative. Only a slight elevation in temperature occurred.

Recovery was rapid. The stiffness of the neck and spine persisted for several days longer. Headache and pain in the back and legs did not recur. The patient had had incontinence of both urine and feces, but this difficulty quickly cleared up with the return of normal mentality.

A total of 560 cc. of antimeningococcus serum was introduced by eighteen lumbar punctures, 155 cc. by six cisterna magna punctures and 75 cc. by four ventricular punctures, making a total of 790 cc. of serum required. None of the antimeningococcus serums on the market agglutinated the organisms in this case, but the serum used killed all organisms in cultures. The fact that the serum was not absolutely specific for the particular strain of meningococcus involved may account for the unusually large amount of serum used. All injections were made by gravity. The technic used was that described by Ayer.[1]

A spinal subarachnoid block was evident after the fourth day and persisted to the tenth day. Ventricular block was present by the sixth and persisted until the ninth day.

The child had no remembrance of the first two weeks in the hospital and did not recognize her parents when her mind at first appeared clear. She returned to school in a short time and showed no mental retardation. There has been no headache or vision disturbance and no check in growth. Now, two years and seven months later, she is apparently perfectly normal physically and mentally.

CONCLUSIONS

The treatment of meningococcus meningitis by the lumbar route alone has given satisfactory results only in the presence of the most favorable conditions—early diagnosis, specific serum and low or moderate virulence of the organisms. Many patients discharged as cured are found on follow-up examination to have hydrocephalus indicating a cisternal, ventricular or cortical subarachnoid block, which had not been recognized and therefore not treated.

Puncture of the cisterna magna is indicated in all cases not showing satisfactory progress. The technic is not difficult, but should be thoroughly mastered on the cadaver before application to the living subject.

Antimeningococcus serum introduced by cisterna puncture reaches the basilar cisterna and cerebral subarachnoid spaces in greatest concentration, whereas, serum introduced by lumbar puncture barely reaches the cisterna magna.

Cisterna puncture, therefore, promises the maximum distribution with the maximum concentration in the regions first involved.

Block of the spinal subarachnoid space may be prevented by early cisterna puncture. The presence of such a block makes this procedure imperative.

Ventricular puncture, either through the anterior fontanel or in older children through a trephine opening, has proved a valuable means of treating meningococcus meningitis. It is demanded in cases showing ventricular block.

Cisterna or ventricular puncture or both combined, with the introduction of curative serum into the basilar cisterna or ventricles, will do much toward preventing subsequent hydrocephalus. In advanced or fulminating cases, these procedures may be the means of saving life.

ALBUMINURIA IN CHILDREN *

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The significance of albumin in the urine of apparently healthy children is still the subject of much discussion. Most of these cases are accidentally discovered in the routine examination of urine in schools, orphan asylums and dispensaries. Bright,[1] in 1827, regarded albumin in the urine as definite evidence of kidney disease. This view was held until Ultzmann,[2] in 1870, suggested the possibility of this urinary finding without an accompanying nephritis, and Leube,[3] in 1877, proved that albumin is found in the urine of many apparently healthy people. Various theories have been advanced to account for this benign albuminuria. Hooker [4] reviews the voluminous literature up to 1910. Post and Thomas [5] and Lauener [6] have summarized it up to 1923.

The frequency of the condition in children varies in the reports from different observers. Capitan [7] reported the condition in 40 per cent of healthy children, Langstein [8] in 12 per cent of children over 5 years of age, Bugge [9] in 15 per cent, and Lauener [6] in as high as 38 per cent. Other research work concerning albuminuria in children may especially be found in articles by Risselade,[10] Fischel and Popper,[11] Stumpke,[12] Jehle, Weith, Scholder and Swenson,[13] Faber,[14] Nassan,[15] Hamelberg,[16] and Hamill and Blackfan.[17] All of these investigators found a high percentage of albuminurias among children, especially Hamill and Blackfan, who examined 124 children whose ages ranged from 18 months to 14 years. They found an albuminuria, at some time or other, in 89 per cent of these cases.

It is not our purpose in this paper to repeat the study of large groups of children to determine the incidence of albuminuria, but intensively to study small groups with the objective of throwing some light on the cause, or causes, and significance of the condition.

However, the incidence of albuminuria in 5,000 school children has been so thoroughly investigated by Lauener [6] that we feel justified in summarizing parts of his work in table 1.

TABLE 1.—*Summary of Lauener's Cases of Albuminuria in Five Thousand School Children*

Age	Number of Children	Percentage Showing Albuminuria	Percentage of Boys with Albuminuria	Percentage of Girls	Percentage Showing Trace of Albumin	Percentage Showing ++ or More
6–7	1,246	6.7	5	8.5	5.6	0.2
10–11	1,256	27	18.6	35.5	15.6	5.7
15–16	2,481	38	29.5	46	25.5	3.2

Because of the confusion in the literature regarding the etiology of the so-called benign albuminurias, we have attempted to determine the causes by analyzing two groups of children of very different environmental and physical conditions.

One of the groups studied was composed of children having no special complaints or illnesses. They were recruited from the homes of the very poor in which hygienic conditions were at their worst, diets were improperly balanced, and teeth, tonsils and other potential foci of infection neglected. Consequently, undernourishment and anemia were common. This group will hereafter be designated as group 1.

The second group studied consisted of children living in a well regulated orphans' home under the supervision of a watchful physician. Their hygienic surroundings were very good. They lived a well regulated life with the proper balance between school work, play, recreation and rest. The meals were properly balanced. Foci of infection were eliminated as soon as discovered. Periodic physical examinations were made. This group will hereafter be known as group 2.

TABLE 2.—*Data in Cases Presenting Albuminuria in Five Hundred and Twenty Children Examined (Morning Specimens Used)* *

Group	Number of Children Examined	Boys	Girls	Age Range	Average Age	Percentage of Total Showing Foci of Infection	Total Percentage of Albuminuria	Percentage Boys	Percentage Girls
1	189	103	86	2–16	8	63	60†	45	70
2	331	181	150	6–16	11	0	15	10	20

* The microscopic findings were abnormal in less than 1 per cent of the cases.
† Eighty per cent of the total albuminurias (60 per cent) showed evidence of malnutrition and foci of infection.

TABLE 3.—*Results of Reexamination of Same Cases Over a Period of One Year*

Group	Number of Children Examined	Boys	Girls		Total Percentage of Albuminurias	Percentage Boys	Percentage Girls
2	331	181	150	6 months later	24	20	30
2	331	181	150	1 year later	15	9	22

The results of the urine examinations are shown in tables 2 and 3.

From these observations, we conclude that the incidence of albuminuria is much higher in children living under poor hygienic surroundings, having many foci of infection (untreated) and for the most part being

* From the Albuminuria Clinic of the Michael Reese Dispensary and the Marks Nathan Orphan Home.

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15. Nassan: Ztschr. f. klin. Med. **84**.
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anemic and undernourished. That these factors do play a prominent rôle in the causation of so-called benign albuminurias in children is evidenced by the fact that many respond to the treatment of these etiologic factors, as will be described later.

The orphanage children (group 2) have a minimum of these factors present. Lest our conclusions be misinterpreted, we wish to repeat that the findings of carious teeth, enlarged and infected tonsils and adenoids, or infected nasal sinuses merely add to the picture of a child below par physically and are not, so far as we can determine, the specific causes of the albuminuria. We feel that the correction of such defects results in an improvement of the albuminuria, mainly so far as it helps to produce a general improvement in the condition of the child.

IDIOPATHIC OR "GROWTH" ALBUMINURIA

Albumin may appear a considerable time before puberty, but it reaches its greatest incidence during adolescence, the period of greatest growth. Lauener has used the term "growth" albuminuria. He is of the opinion that growth, with its attendant phenomena, is the main factor in the albuminuria of juveniles. In his cases he found it more frequent in girls than in boys, which he attributes to their more rapid and intensive growth. We wish to direct attention to this and to point to our experiences with the orphanage children. Here are children in whom all foci of infection have been removed, who to all appearances are normal and well nourished, and whose weight curves show a definite increase; and yet, a small but fairly constant percentage manifest benign albuminuria. If Lauener's deductions are correct, it would seem that 78 per cent of the albuminurias in the orphanage children would fit into the group which he classifies as "growth" albuminurias. The remaining 22 per cent were of the orthostatic type (table 4).

The albuminuria in many of the cases studied was transitory in character, as revealed by repeated urine examinations. In group 1, on sixty-five of the 189 children studied, from two to six urinalyses were made over a period of one year. Forty of the sixty-five varied from positive to negative and back to positive or negative again. In group 2, fifty of the 331 urines examined were positive on the first examination. One week later, of the same fifty, only forty-three were positive for albumin, and six months later, only twenty-one of the original fifty albuminurias were still positive. Also sixty-two cases in which the first examination was negative showed a positive urine six months later.

ORTHOSTATIC ALBUMINURIA

Many observers have maintained or implied in their writings that the non-nephritic albuminurias found in urines on routine examinations are based on an orthostatic or postural albuminuria. Post and Thomas [5] apparently assume that the statistics of most previous authors [18] refer to the incidence of orthostatic albuminuria. Saito [19] states that 15 per cent of 148 healthy school boys from 10 to 14 years of age showed albuminuria, and that 90 per cent of the positives were of the orthostatic type. Hamill and Blackfan,[17] however, definitely imply that, although a large percentage of their cases (children) showed euglobulin in the urine, which is a fairly constant finding in orthostatic albuminuria, most of these were not orthostatic, because this amount of proteinuria was not increased by the upright posture and exercise. They found no orthostatic albuminuria in 124 cases of albuminuria that were studied. Lauener [6] states that "orthostatic and growth or 'physiological' albuminurias should have separate groupings." His statistics are concerned mostly with nonorthostatic types.

From our studies we believe that most of the so-called benign albuminurias in children are not of the orthostatic type. By orthostatic albuminuria we understand a condition in which the urine excreted while the patient is lying down is albumin free, with the subsequent appearance of it after he rises. In short, if the first specimen passed in the morning, when compared with a specimen obtained later in the day after normal activities, contains as much albumin or more, then the condition does not belong in the category of the orthostatic albuminuria.

TABLE 4.—*Comparison of Morning and Afternoon Urine in Cases in Which the Afternoon Specimen Had Been Found Positive*

Total Number of Cases in Which Afternoon Specimen Had Been Found Positive	Total Percentage of Orthostatic Patients Among the 32 Albuminurias (in the 249 Children)	Percentage of Orthostatic Patients Among the Total Number of Children (249) Examined	Percentage of the 12* Boys Negative in the Morning and ++ or More in Afternoon	Percentage of the Total Boys (138) Examined Negative in the Morning and ++ or More in the Afternoon	Percentage of the 20* Girls Negative in the Morning and ++ or More in the Afternoon	Percentage of the Total Girls (111) Examined Negative in the Morning and ++ or More in the Afternoon
32 Boys 12* Girls 20*	7, or 22%	7, or 2.8%	4, or 33%	4, or 2.9%	3, or 15%	3, or 2.7%

We examined the afternoon urine specimens in group 2. In those found positive, the first specimen passed in the morning (night urine) and an afternoon specimen were reexamined. The results are summarized in tables 4 and 5.

TABLE 5.—*Data of Albuminuria in Afternoon (Late Afternoon Specimens)*

Total Number of Cases	Percentage of Total Positive in Afternoon	Percentage of Total Boys (138) Positive in Afternoon	Percentage of Total Girls (111) Positive in Afternoon
249 Boys 138 Girls 111	32, or 12.8%	12, or 8.2%	20, or 18.9%

We believe our results indicate that the greater percentage of albuminurias in children are not the postural or orthostatic type. We admit, however, that at times it is difficult to differentiate between a so-called growth albuminuria and an orthostatic albuminuria, especially as one may merge into the other; but we feel that postural relationship is the most definite constant characteristic of the orthostatic albuminuria. Whereas some would assign a greater proportion of benign albuminurias to the orthostatic variety, we are more inclined to separate this group and to add that the greater proportion of benign albuminurias in children are due to the asthenia and anemia resulting from foci of infection and to growth disturbances.

18. Those given in footnotes 7 to 17.
19. Saito, H.: Clinical Investigations on Orthostatic Albuminuria, Am. J. Dis. Child. 22: 338-401 (Oct.) 1921.

ALKALIZATION

Post and Thomas [5] maintain that "every case of orthostatic albuminuria, with very rare exceptions, will become and remain albumin free, regardless of posture, exertion, time of day, or urinary concentration, as long as the urine remains neutral or slightly alkaline." Those cases which failed to respond were suspected of being the result of renal pathologic change. Nassan [20] observed similar results. Hamill and Blackfan [17] state that the reaction of the urine has no influence on the production of albumin.

Our results in ten cases studied agree mainly with the latter authors. An alkaline urine apparently did not cause the albumin to disappear, although in a few cases the amount of albumin was somewhat lessened.

TYPE OF PROTEIN

Until the recent work of Welker, it was generally agreed that the protein in the urine might be identified as either serum albumin or serum globulin, also referred to as euglobulin, or a combination of the two. Langstein [21] and Wallis [22] concluded that the protein precipitated by acetic acid added to cold urine was euglobulin, while Pollitzer [23] believed that the precipitate was caused by a combination of serum albumin and chondroitin-sulphuric acid. The precipitate is often referred to as the acetic acid body. Welker's [24] investigations disclose, however, that chemical tests for the identification of the types of protein in urine are difficult of application and interpretation, but that the precipitin test accurately identifies most of them. By means of the precipitin test, he found that the protein in urine may be identified as coagulable protein not precipitated in the cold by acetic acid (serum albumin, pseudoglobulin); or coagulable protein precipitated in the cold by acetic acid (euglobulin); or noncoagulable protein precipitated in the cold by acetic acid (mucin, nucleoprotein), and noncoagulable protein not precipitated by acetic acid at all (proteoses). There is no simple test for separating euglobulin, mucin and nucleoprotein available. All of these are precipitated in the cold by acetic acid. Hamill and Blackfan [17] especially investigated the type of protein found in the so-called albuminuria cases in children. Wallis and the latter authors believe that euglobulin is the protein mainly present in non-nephritic cases (leaky kidneys). The latter investigators noted that, in these benign albuminurias, the euglobulin was present three times as frequently as serum albumin. As these authors used only the chemical test and not the precipitin test, they of course included mucin and nucleoprotein as well as euglobulin in what they termed "euglobulin."

A simple test for albumin in the urine was used throughout our work. This test is the one commonly employed in the routine examination of urine in physicians' offices and laboratories. The technic is as follows:

A test tube is filled about two-thirds full with clear urine. The upper portion of the urine is heated to boiling in the flame, and from 5 to 6 drops of 5 per cent acetic acid is added. The contents of the tube are viewed against a black background, and only those urines which exhibit no cloudiness are considered normal. In testing for euglobulin, the acetic acid is added to the cold urine. The urine is not heated at any time during the test for euglobulin.

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21. Langstein, L.: Die Albuminurie alterer Kinder, Leipzig, 1907.
22. Wallis, R. L. M.: Proc. Roy. Soc. Med. (Sect. Med.) **13**: 96 (May) 1920.
23. Pollitzer: Deutsche med. Wchnschr., March, 1912.
24. Welker, W. H.: Personal communications to the authors.

The results of our investigations of the types of protein present as determined by the "cold" and "heat" acetic tests are given in table 6.

We concluded from these results that 26 per cent of the urines examined and 58 per cent of those showing a positive protein reaction contained either euglobulin, nucleo-albumin, mucin, or all of them, which precipitate out when acetic acid is added to the cold urine. As 26 per cent of the total were more positive in the hot urine, it is reasonable to assume that, at least in this number, serum albumin or pseudoglobulin, or both were present, and that in at least 18 per cent they alone were present, as this percentage reacted only in the heated urine. In two thirds of the analyses, the heat and cold test agreed (either positive or negative). In this series, 46 per cent of the total gave a positive protein reaction.

It appears from these results that either euglobulin, nucleo-albumin and mucin, or all, are prominent components of the protein in the urine in the benign albuminuria cases, but that serum albumin or pseudoglobulin may occur alone, even in benign albuminurias. Only by further investigations by means of the precipitin test can it be determined which one of the three proteins, euglobulin, nucleo-albumin or mucin, predominates in these benign albuminurias.

TABLE 6.—*Results of Investigations of Types of Protein*

Total number of urines analyzed	906
Total number giving a positive protein test on the addition of acetic acid to the cold urine	248, or 27.4%
Total number giving a positive protein test on the addition of acetic acid to the heated urine	398, or 43.9%
Total number agreeing in both the cold and heated specimen (either positive or negative)	646, or 71.3%
Total number more positive in the heated than in the cold.	238, or 26.6%
Total number more positive in the cold than in the heated.	20, or 2.2%
Total number positive in the cold only	18, or 1.99%
Total number positive in the hot only	163, or 18%

COMMENT

All previous investigators agree that albuminuria is a frequent occurrence in children, especially in those over 6 years of age, becoming more frequent toward puberty. Most agree that the incidence is higher in girls. Globulinuria is generally accepted as a type of proteinuria that predominates, or is a prominent feature in these cases. Some authors maintain that most of these juvenile forms of albuminuria are of the orthostatic or postural type. Others contend that the majority are not of this type but nevertheless are harmless and of not as much importance as is customarily attached to them. Many cases have been followed into adult life and have shown no higher incidence of nephritis. It is generally agreed that the growing kidney may physiologically secrete albumin in the urine, and consequently during the period of most rapid growth (puberty) the greatest incidence occurs.

As a result of our studies, we believe that some of these albuminurias may be considered physiologic or growth albuminurias, but that many other etiologic factors may be present, which, when removed, result in the permanent disappearance of the condition. One of us has conducted an albuminuria clinic for several years for the purpose of finding the cause and eliminating it if possible in these cases. Foci of infection, especially chronically infected tonsils, adenoids, nasal sinusitis and abscessed teeth, are the chief offenders. Many cases of albuminuria have responded when treatment was directed toward these foci. Again,

undernourishment and anemia often were associated with albuminuria, which responded to the overcoming of these factors. We reiterate that we do not believe that all of these factors (foci, etc.) have any direct specific effect on the kidney. They probably are a part of the picture associated with malnutrition or an under par condition with faulty blood volume and blood flow, resulting in hypofunction or impaired function of the body tissues. In short, the albuminuria is merely one symptom of a general systemic disturbance in these cases.

We wish to direct the attention of the physician to the dangerous practice of stressing the term albuminuria too greatly to the parent or to the patient. The harm done psychically may be worse than the condition physically. Albumin in the urine is a dreaded occurrence among the laity, and albuminuria neurotics can easily be created. The "disease" often occurs only in the physician's test tube and in the mind of the patient. However, the physician must not totally disregard these simple benign albuminurias. A functional albuminuria should be regarded much as a functional heart murmur. Every case should be under the control or observation of the physician for a variable period, certainly during the period of adolescence, and for a short period following.

We offer the following classification for the convenience of the practicing physician, thus doing away with a host of misleading terms:

Benign Albuminuria.

(*a*) Malnutrition albuminuria, frequently associated with anemia, underweight and systolic basal murmur. Foci of infection, especially infected tonsils, adenoids, nasal sinuses and carious teeth, are common causes of this malnourished condition.

(*b*) Orthostatic albuminuria, associated with posture.

(*c*) Idiopathic or "growth" albuminuria, including the terms juvenile, puberty, cyclic, transitory and intermittent.

According to our experience, the simplest methods of treatment should be followed. We would recommend first an intelligent explanation of the nature of the findings to the parent, explaining the simplicity and benignancy, and that it does not comprise a sickness or disease. The physician will often find that his problem is one of treating an intense, overanxious, hypochondriac parent rather than the child. Those cases which demand correction and elimination of apparent foci of infection certainly should have these done. Nutrition should be improved and anemia overcome. But we do not advise any excessive rest cure or restricted low protein diet as a remedy. Such measures may actually result in harm to children who are physically under par. The child should be allowed to lead a normal life with only such restrictions as are necessary to overcome any malnutrition; otherwise, freedom in every regard has proved to be the best remedy. Especial emphasis should be laid on the physical development of the orthostatic group.

Circulatory Changes in Anesthesia.—Chloroform is a poison to living cells, acting perhaps on the fatty surface film which controls permeability and adsorption. On the heart it causes dilatation and weak action, and under certain conditions fibrillar contraction, the cause of sudden syncope and death. . . . Chloroform, by poisoning the tissue cells and relaxing their tone, makes the whole body flabby, turns the circulation from a vigorous one through confined channels in a taut body to a sluggish one in a relaxed body, and the blood in consequence stagnates in dependent parts—hypostatic congestion. —Hill, Leonard: *Brit. M. J.*, April 24, 1926.

RECOGNITION AND MANAGEMENT OF THE CARDIOVASCULAR SURGICAL RISK*

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There are few subjects in medicine in which an accurate knowledge is more urgently required than a patient's general fitness for undergoing an operation. It is well known that a major operation throws a great strain on the cardiovascular system; occasionally, this strain costs the patient his life.

CARDIAC CHART

Name Case No. 21 Date Nov. II, 1924.

Age 67

Response to effort: Moderately limited.

Dyspnoea or Pain: on level no; on grade yes; stairs yes; against wind yes; hurrying yes

Pain no
Location
Radiation
Duration

Constriction of chest no
Exhaustion no
Duration of Symptom 3 years
Stationary or Progressive
Examination
Vessels, thickened, [illegible].
Heart:
Size Enlarged
Thrill no
Sounds: Intensity Markedly diminished Splitting – First apical
Murmurs no
A2 not accentuated
Rhythm Regular
Heart failure: degree slight
Diagnosis Myocarditis
Risk Poor
Blood pressure: before operation 140/70 after operation
Operation Abdomino-perineal excision of [illegible] rectum 1 3/4 hrs.
Condition at discharge died

Notes: Condition at end of operation fairly good.
Transfusion immediately before operation, 750 cc. whole blood

1st & 2nd days: condition apparently good. 3rd, day: many premature beats. 4 th. day: progressive circulatory failure, died in P M

Cardiac chart, with findings.

A fatal termination for this type of patient clearly indicates that the gravity of the condition of the cardiovascular system was unrecognized. An accurate appraisal of the system might reasonably correct this unsatisfactory state of affairs. It seems that the anesthetist, by virtue of the unique opportunity he has for studying the conditions of the surgical patients before, during and after operations, occupies a strategic position for gaining information that of necessity cannot be obtained by the surgeon or the internist. It was decided to undertake the investigation of this subject and to learn, if possible, to appraise the cardiovascular system with sufficient accuracy to predict the fate of a patient about to undergo an operation. It was realized from the beginning that the acquisition of this type of knowledge, in which prognosis is the object, is a process of slow growth and results only from the accurate registration and correct evaluation of a large number of single instances of phenomena and associated phe-

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nomena. However, an extended study of this nature should yield results that will be valuable.

That the study possess any degree of accuracy, it was necessary to supplement the work in anesthesia by attending cardiac clinics, and after several years of preliminary study, the work was begun. The accompanying chart was devised to insure uniformity in examination of the patients and for the purpose of permanent record. Owing to the fact that the majority of examinations are made immediately preceding the administration of the anesthesia, brevity and simplicity were required in the chart. In the first half of the chart, subjective symptoms are recorded for the reason so strongly emphasized by Mackenzie; namely, that they are the first manifestations of cardiovascular impairment. The physical examination is next recorded. As a rule this examination consumes only a few minutes. If, however, there is evidence of the presence of valvular, myocardial or vascular disease, the subjective symptoms and objective signs discounted. That is to say, even though supporting measures are employed, the strain of the operation will be too great for the cardiovascular system. These supporting measures will be discussed in the latter part of the paper. Again, the duration of the operation is a factor bearing on the prognosis that is of the utmost importance. In this class of patients the rapidity with which the surgery is performed determines, to a large extent, its efficacy. The necessity of rapidity in these poor surgical risks cannot be too strongly emphasized. A patient of this type may withstand great surgical trauma for a short period, whereas prolonged trauma may kill him. The more surgery one sees, the more is one impressed by this fact. Therefore, in attempting a prognosis, the element of time is a vital factor.

During the past year, three patients were brought to the operating room overdigitalized. One of these cases was incorrectly diagnosed as a structural heart block. With this involvement of the conduction system and the likelihood of more extensive ventricular impairment,

TABLE 1.—*Cardiovascular and Surgical Outcome* *

	Case																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Sex	M	F	M	M	M	M	M	F	M	M	M	F	M	M	F	M	F	M	M	F	M	F	F	F	F	F	F	M
Age	58	53	70	72	50	66	72	54	52	66	60	72	50	55	54	62	54	67	59	57	61	68	57	58	57	58	60	57
Dyspnea on effort	+	+	−	−	−	−	+	+	−	+	−	−	−	+	−	−	−	+	+	+	+	−	−	+	−	−	+	−
Retrosternal pain on effort	−	−	−	−	−	−	−	−	+	−	−	−	−	−	−	+	..	−	−	−	−	−	−	−	−	−	−	−
Precordial pain on effort	−	+	−	−	−	−	−	+	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	−	+	−
Duration of symptoms In years	3	3-4	−	−	−	−	−	5	4	2	−	−	−	1	−	1	−	3	2	3	3	−	−	4	−	−	4	−
Stationary	+	−	+	+	+	+	+	+	+	+	−	−	−	−	−	−	−	+	+	+	−	−	−	+	−	−	−	−
Progressive	−	+	−	−	−	−	−	−	−	−	−	−	−	+	−	+	−	−	−	−	+	−	−	−	−	−	+	−
Heart enlarged	+	+	−	−	+	−	−	−	+	+	−	−	−	+	−	+	−	−	+	+	+	−	−	−	−	+	+	−
Diminution of heart sounds	+	+	+	−	−	+	+	−	−	+	+	−	−	+	−	+	−	+	+	−	+	−	−	+	−	−	−	+
Reduplication of heart sounds	−	−	−	−	−	−	−	−	−	+	−	−	−	−	−	−	−	−	−	−	+	−	−	−	−	−	−	−
Murmurs	SAB	−	−	SA	−	−	−	−	SB	−	−	SA	SA	SAB	−	SA	−	−	−	−	−	−	SA	−	−	SAB	−	−
Accentuation of aortic second sound	+	−	+	+	−	+	−	−	++	−	−	−	−	+	−	+	−	+	+	−	−	−	−	−	+	+	−	+
Regular rhythm	+	+	+	+	+	+	+	+	+	+	+	+	+	PB	−	+	+	+	+	+	+	−	+	+	+	+	+	+
Thickening of radials	+	−	+	+	−	+	−	−	+	+	+	+	−	+	−	+	−	+	+	+	+	−	−	−	−	+	−	+
Blood pressure Systolic	170	204	100	126	156	136	158	140	134	116	124	150	100	120	140	127	100	116	148	135	140	100	122	102	120	148	190	145
Diastolic	92	106	67	86	85	72	80	72	62	76	90	90	98	60	80	78	62	70	90	80	70	85	74	94	60	60	120	75
Risk	P	P	G	G	G	G	G	G	P	P	G	G	G	P	G	P	G	G	P	G	P	G	G	G	G	G	P	G
Major operation	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Duration of operation	2	1	1	¾	2	1¼	1	1	1	1½	1	1¾	1½	1	2	¾	1½	1¼	1½	1	1¾	1¾	1¼	2½	½	1	1½	1¼
Condition at end of operation	G	G	G	G	G	G	G	G	G	F	G	G	G	P	G	G	G	G	F	G	G	G	G	G	G	G	G	G
Condition at discharge	G	G	G	G	G	G	G	G	G	D	G	G	G	G	G	D	G	G	G	G	D	G	G	G	G	G	G	G

* In this table, plus indicates yes; minus, no; G, good; F, fair; S, systolic; A, apex; B, base; D, died; PB, premature beats.

receive consideration in proportion to their gravity. In questionable risks the examination takes place, when possible, the day preceding the operation. The degree of heart failure, if any, is next considered. Then the cardiovascular diagnosis is made. We are now prepared to make a tentative appraisal of the patient's cardiovascular system. The heading entitled "Risk" is reserved for this purpose. A risk qualified "good" registers my belief that the patient's cardiovascular system will successfully withstand the strain of the operation, while "poor" indicates that it will not. The condition of the patient during and immediately after the operation, and the employment of any supporting measures, are also recorded. The postoperative course and the condition of the patient at discharge from the hospital complete the record.

In attempting a prognosis, the nature of the operation and the management of the patient before, during and after the operation must be considered. Adequate supporting measures may enable an impaired cardiovascular system successfully to withstand the strain of an operation, whereas without this support, progressive circulatory failure would be inevitable. In the designation of poor risks, the supporting measures are, in large part, together with a moderate restriction of the cardiac field of response to effort by dyspnea, the patient was appraised as a poor risk (case 14). A gastroenterostomy was performed. His condition at the end of the operation was such that a gastric resection was considered inadvisable. Recovery from the gastroenterostomy was uneventful. This experience indicates the necessity of investigating the digitalization of patients before attempting to interpret one's findings. In patients with regular rhythm, therapeutic digitalization is of questionable value and overdigitalization possibly harmful.

Unfortunately, in this study it was not possible to make use of electrocardiograms, essential adjuncts in the appraisal of the cardiovascular system. Pardee [1] says: "The electrocardiogram has its own special variety of information; namely, the mechanism and character of the contraction of the muscle fibers of the heart. An examination of the heart is as incomplete without the electrocardiogram as it is without auscultation or a determination of the size of the heart. By omitting any of these methods, we may deprive our-

1. Pardee, H. E. B.: Clinical Aspects of the Electrocardiogram, New York, Paul B. Hoeber, 1924, pp. 152, 156, 157.

selves of information of considerable value in the diagnosis. . . . If the patient has the retrosternal pain coming on with exertion and relieved by rest, typical of disease of the coronary arteries, or has had a severe typical attack of angina pectoris, it is very common to find significant abnormalities of the ventricular wave. About 70 per cent of those patients will show one or more of the abnormalities mentioned, even though the heart is quite normal in size and free from murmurs; half of these have the special T wave peculiarity associated with coronary narrowing. . . . Of these patients who have cardiac enlargement and symptoms of circulatory insufficiency, the number showing abnormal electrocardiograms will be quite large. These have the diffuse myocardial degeneration from arterial narrowing or from multiple foci of low-grade infection within the muscle; and abnormal ventricular waves are found in about 85 per cent. They are often referred to as having 'cardiosclerosis.'"

TABLE 2.—*Summary of Table 1*

	Women	Men
No symptoms or signs	8	7
Mild symptoms and signs	2	2
Advanced symptoms and signs	3	6
Final outcome: Lived	13	12
Died	..	3
Operation curtailed	..	2

TABLE 3.—*Operations in Table 1*

	Case
Radical removal of breast	12, 26
Perineal prostatectomy	4, 7
Gastro-enterostomy	6-9, 14, 19, 28
Splenectomy	25
Repair of perineum and cervix	8
Bilateral inguinal herniotomy	13
Hysterectomy and removal of large ovarian cyst	2
Resection of sigmoid	1, 5
Perineorrhaphy, anterior colporrhaphy and abdominal for retrodisplacement of uterus	17
Resection of first portion of duodenum and gastro-enterostomy	15
Cholecystectomy	27
Removal of cyst of maxillary bone	3
Cholecystectomy and excision of duodenal ulcer	18
Appendectomy (ruptured) with abscess	20
Cholecystectomy and appendectomy	23
Cholecystotomy	16
Cholecystectomy and repair of ventral hernia	24
Plication lateral ligaments of rectum (laparotomy)	22
Removal of growth from rectum	11
Excision of rectum by abdominal perineal routes	10, 21

There is presented, in the accompanying tables, a series of cardiovascular appraisals assembled from the past year. The series includes only patients of 50 years of age and over on whom major operations were performed. No patient is included who was a poor risk as a result of a surgical condition; this excludes a large number of patients. Despite their paucity, analysis discloses a number of interesting facts.

All patients without symptoms or without signs referable to the cardiovascular system and therefore appraised as good risks, and all patients with mild symptoms and signs of circulatory insufficiency and therefore appraised as probably good risks, proved to be good risks.

Eight patients were appraised as poor risks. Of the men, three died; on two, operations were curtailed because of poor condition, and one did well. Of the women, two did well; no operations were curtailed and no patients died. Women seem better subjects than men. Subjective symptoms and objective signs in men referable to the cardiovascular system indicate an impairment of that system of a more serious nature than do the same symptoms and signs in women.

Anginal symptoms in women were mild, inconstant and secondary. One man (case 9) with syphilitic aortitis, moderately restricted in effort by retrosternal pain, did well. One man (case 16), markedly restricted in effort by retrosternal pain, died suddenly on the nineteenth day after operation, after a smooth and uneventful convalescence. Two men (cases 10 and 21), each moderately restricted in effort by dyspnea, without pain, with moderately enlarged hearts, marked diminution of intensity of the heart sounds, reduplication of the first apical sound, and subnormal blood pressures, died, one on the fourth day and the other on the fourteenth day.

Two patients developed, on the day following their operations, auricular fibrillation, which lasted two days and four days, respectively, on digitalis medication.

REPORT OF CASES

CASE 16.—A banker, aged 63, with markedly limited response to effort, had retrosternal pain after five minutes' walking on the level, pain which came on when he walked against the wind, climbed a flight of stairs and on grades; he could not hurry. The pain did not radiate. There were no sensations of constriction of the chest and no exhaustion. For the past year pain always occurred on slight exertion, relieved by rest. Gas and urination were common during the attacks. The symptoms were progressive.

The patient was well nourished; the heart was enlarged, the left border almost to the anterior axillary line; the sounds were diminished in intensity at the apex and almost inaudible at the base, with a systolic blow at the apex; the rhythm was regular; the radials were thickened. The systolic blood pressure was 137; diastolic, 78. Because the patient's surgical condition was considered critical, a cholecystotomy was performed, in spite of his marked cardiac impairment. He had a smooth, uneventful convalescence. On the morning of the nineteenth day after operation, having finished breakfast, the patient stated that he never felt better; a few minutes later he complained of a queer feeling and suddenly died. No postmortem was obtained.

Sudden deaths are common in angina pectoris, but this patient did not die during an attack. In fact, he had been quite free from anginal pain for about a month, because he had been confined to bed. The exact mechanism of his death is unknown. In what degree the operation, nineteen days before, was contributory to his death is also a matter of conjecture. In dealing with such conditions, we are confronted by aspects of reality as yet beyond our powers of registration.

CASE 10.—A traveling salesman, aged 66, somewhat overnourished, but who had lost 40 pounds (18 Kg.), had a response to effort moderately limited by dyspnea, which had been more marked during the past year. The heart was moderately enlarged; the sounds showed a marked diminution of the intensity, with reduplication of the first apical beat, but no murmurs; the rhythm was regular and the radials thickened. The systolic blood pressure was 116; diastolic, 76. The red blood cells numbered 3,980,000; the white cells, 7,500; the hemoglobin was 75 per cent. The blood chemical findings were normal. An excision of a carcinoma of the rectum, by the abdominoperineal route with colostomy, was done; the operation lasted one and one-half hours; a hypodermoclysis of physiologic sodium chloride solution was given during operation. Transfusion of 500 cc. of whole blood was done immediately after the operation, though the patient's condition was considered fairly good. Immediately after the operation and before transfusion the red blood cells numbered 3,800,000; the white blood cells, 12,000; hemoglobin, 78 per cent. I saw the patient four hours after the operation; the volume of the pulse was good, but not as good as it should have been, considering the transfusion; the patient slept under scopolamine-morphine anesthesia. Convalescence was smooth and uneventful up to the seventh day after operation. After a very restful night, at 7 a. m., he became suddenly dyspneic, and cold and clammy; the pulse was scarcely perceptible, and

the heart sounds were muffled, though there was no pain; a half hour later he became unconscious and remained so for about half an hour. The internist diagnosed the attack as probably due to occlusion of a small coronary artery. After a few hours, the patient was more or less completely recovered, and the pulse and general condition apparently good again. He had several similar attacks on successive days, some of which followed colonic irrigations. On the twelfth postoperative day, there were signs of pneumonia at the right lower base. On the fourteenth day, the patient died. No postmortem was obtained.

It will be noted that this patient had an uneventful convalescence up to the seventh day following the operation. The exact cause and nature of his subsequent repeated attacks are unknown. The repetitions strongly implicate the heart as the offending organ. The strain of the operation was too great for the cardiovascular system. Transfusion was done immediately after the operation; less strain on the impaired heart would have been entailed had the patient been fortified by an additional transfusion before the operation, but his general appearance had been misleading. Whether the latter transfusion would have prevented the fatal termination is problematic, but it is believed that it would have done so.

Deaths of this nature are frequently classed as cardiovascular "accidents." It is believed, however, that such cases possess symptoms and signs which, appraised before the operation, will indicate the advisability or inadvisability of an operation.

SUPPORTING MEASURES IN CARDIOVASCULAR SURGERY

Success with the poor surgical risk depends in a large measure on the judicious management of this type of patient before, during and after opeartion. The advisability of transfusion before the operation is determined by the condition of the patient and the nature of the operation. A patient with a poor cardiovascular system, facing a long, severe operation, should have a transfusion done before the operation, even though there is little or no anemia present. The best results are obtained when the transfusion immediately precedes the operation. Transfusion after the operation in many of the poorer risks may also be necessary; an immediate transfusion is advised if the patient's condition is unsatisfactory. Treatment should begin before circulatory failure is at all pronounced.

Transfusion is the most effective method we possess to prevent and combat circulatory failure incident to surgical shock. Physiologists are practically agreed that the chief cause of circulatory failure in shock is the reduced volume of blood returned to the heart. The vascular system, to function properly, must contain at all times an adequate supply of fluid, and the best fluid is whole blood. The force of ventricular contraction is determined by the diastolic volume previous to contraction, provided marked changes in arterial resistance or alterations in inherent contractility of the heart are not produced.[2] Transfusion aids materially in maintaining a normal diastolic volume through adequate venous return and likewise prevents marked changes in arterial resistance. In the poor risks under consideration, it possibly minimizes any tendency, due to surgical shock, to alterations in inherent contractility.

A hypodermoclysis of physiologic sodium chloride solution sustains and prolongs the good effects of a transfusion given immediately before the operation; and when there is no preliminary transfusion, hypodermoclysis is even more urgently required.

It is also helpful with these patients to substitute a combination narcotic in place of the general anesthesia during the latter part of the operation. In the case of a laparotomy, such as gastric resection, the general anesthesia is continued with as low a level maintenance as possible until the resection begins. At this time morphine, from 1/6 to 1/4 grain (10 to 16 mg.), scopolamine, 1/200 grain (0.3 mg.) and atropine, 1/150 grain (0.4 mg.) are administered hypodermically. Five minutes later, the general anesthesia is discontinued and the operation completed, as a rule, without additional anesthesia. As a consequence, the strength of the patient is conserved.

Another essential in the management of the poor risk is absolute rest after the operation. The urgency of this is often not fully appreciated. Any exertion whatever immediately following a prolonged and severe operation on a patient with cardiac impairment may prove fatal. The return of consciousness in practically all patients is accompanied by movements of the arms and legs, at times sufficient to require moderate restraint. This exertion on the part of the patient may be prevented by administering hypodermically, fifteen or twenty minutes before the close of the operation, the medication mentioned in the previous paragraph. The patient passes into a deep sleep that lasts from four to six hours. Even transfusion after the operation fails to awaken him. Absolute rest is assured. This method has been frequently used during a number of years, with only favorable results. To continue the complete rest into the following day, one or two additional doses of morphine is all that is required in most instances.

Changing the position of the patient during the operation should be arranged, when possible, to occur in the beginning rather than at the end. For example, in an excision of the rectum for carcinoma by combined abdominal and perineal routes, it is well to begin with the perineal operation, in order that the change of position may occur early, when the patient is in relatively good condition.

Again, in transporting a patient from the operating room to the bed, no effort should be spared to give the least possible disturbance to him. These minor details are of the utmost importance to those of poor physical condition undergoing severe operations. Conservation of strength is a vital necessity.

SUMMARY AND CONCLUSIONS

1. All the patients without symptoms and without signs of cardiovascular impairment withstood the strain of a major operation.

2. All the patients with mild symptoms and signs of cardiovascular impairment also withstood the strain of a major operation.

3. Of six men with advanced symptoms and signs of cardiovascular impairment, three died; of two, operations were curtailed; one did well.

4. Two women with advanced symptoms and signs of cardiovascular impairment did well.

5. Transfusion of whole blood is the most effective method to prevent and combat surgical shock.

6. The hazard to patients with cardiovascular impairment undergoing long, severe operations is minimized by transfusion immediately before and after operation.

7. Complete mental and physical rest is insured by morphine, from 1/6 to 1/4 grain (10 to 16 mg.), scopolamine, 1/200 to 1/150 grain (0.3 to 0.4 mg.), atropine 1/150 grain, given before the patient leaves the operating room.

2. Wiggers, C. J.: Circulation in Health and Disease, ed. 2, Philadelphia, Lea & Febiger, 1923, pp. 111 and 598.

TUMORS OF THE CAUDA EQUINA

REPORT OF TWO CASES

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It is all too true that the diagnosis of tumors of the cauda equina has been made notoriously late in the course of the disease.

One who looks over the literature on this subject is struck by the fact that most of these patients have been treated for long periods for disturbances other than that from which they were suffering. The most common erroneous diagnoses include sciatica, rheumatism, gallbladder disease, appendicitis, neuritis, Pott's disease (case 1 in our series), lumbago and sacro-iliac disease (case 2).

Spiller and Frazier [1] found in their cases that the average duration of the disease before correct diagnosis

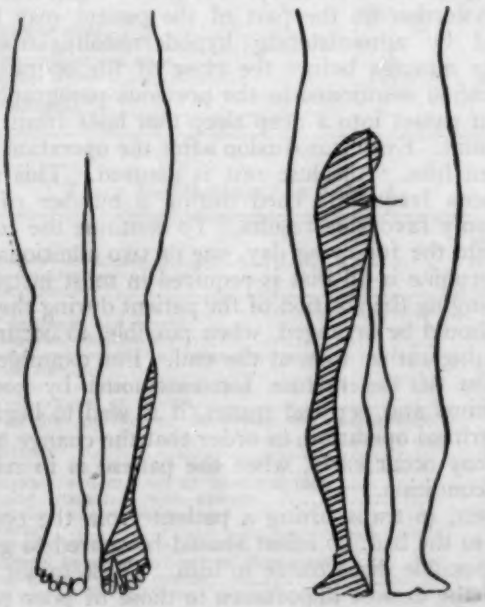


Fig. 1 (case 1).—Front and back views of area affected by cauda equina tumor, in which there is loss of sensation to light, touch, pain and temperature (indicated by shading).

was made was two and three-fifths years. Two of Cushing's [2] cases were "of many years' duration." Elsberg [3] reported a case of one and one-half years, while Hamill's [4] patient suffered for ten years before the correct diagnosis was made and proved.

The apparent explanation of this delay between the onset and final correct diagnosis is that the symptoms and signs presented in the majority of these cases are obscure and indefinite. The usual case of caudal disease passes through a more or less rapid acute phase into a stage either intermittent, as regards symptoms, or chronic. Therefore, on the basis of their symptomatology, the localization of caudal lesions is not always easy, as, for instance, we see in contrast in the acute inflammatory or traumatic caudal lesions in which the clinical picture is clearcut. The taking of a careful history and frequent examinations for insignificant or evanescent physical signs might lead to early suspicion of caudal involvement.

The symptomatology of the acute caudal lesion is of the same type as that found in the chronic long-standing case. It might be well to refer here briefly to the work of Roussy and Lhermitte,[5] who have so clearly systematized caudal lesions after trauma. These writers say:

> The syndromes by which one interprets injuries of the roots or the nerves of the cauda equina manifest themselves in various ways, according to the height of the lesion, its extent or its depth, as is easily understood in view of the anatomic details presented above. Nevertheless, there is an entire series of signs common to the lesions of the cauda equina that serve to individualize them.[6]

They have divided the traumatic cases (and this really includes the acute nontraumatic case) into five main syndromes, each with its own symptomatology and clinical findings:

1. The total type syndrome, corresponding to high lesions beginning at the level of the second lumbar vertebra.
2. Middle type (lumbosacral) syndromes, corresponding to lesions in the region of the lumbosacral articulation (from the fifth lumbar to the first sacral vertebra).
3. The lower type syndrome, corresponding to lesions purely sacral.
4. The hemicaudal syndrome, in lesions affecting only half of the cauda.
5. The root type syndrome, in which few or many roots of the cauda are involved. In this type a few of the lumbosacral roots are attacked alone or haphazard. The reader is referred to Roussy's succinct description of the foregoing syndromes.

One realizes that classifications as described above are inadequate, because syndromes in chronic cases only approximate those found in acute cases. Nevertheless, bearing this in mind, the interpretation of subjective and objective findings will suggest early caudal involvement of one of these types in most cases.

Once our suspicion is directed to the cauda, it is necessarily important to determine other data about the lesion. To do this, several methods of approach have been advocated.

Roentgen-ray examinations of the lumbosacral region and lumbar puncture in the early cases are usually negative.

Cushing and Ayer,[2] Mestrezat,[7] Spiller and Frazier,[1] Guillain [8] and many others have obtained below the lesions in later cases a yellow (xanthochromic) spinal fluid, poor in cellular content and rich in protein (Froin's syndrome). This type of fluid has always been considered indicative of a more or less complete spinal block above the site of puncture. Recently, however, Cushing and Ayer discovered that xanthochromia of less intensity also exists above the level of the lesion in some of their cases, as in case 1 of the present series. Thus, simple lumbar puncture has little localizing value.

A procedure of value in some cases is that used by Ayer and Mixter,[9] who established the presence of a

1. Spiller, W. G., and Frazier, C. H.: Spinal Cord Tumor, Arch. Neurol. & Psychiat. **8**: 455 (Nov.) 1922.
2. Cushing, Harvey; and Ayer, J. B.: Xanthochromia and Increased Protein in Spinal Fluid Above Tumors of Cauda Equina, Arch. Neurol. & Psychiat. **10**: 167 (Aug.) 1923.
3. Elsberg, C. A.: Ann. Surg. **65**: 268, 1917.
4. Hamill, R. C.: M. Clin. N. Amer. **5**: 45 (July) 1921.
5. Roussy, Gustave; and Lhermitte, Jean: Les blessures de la moelle et de la queue de cheval, Paris, Masson et cie, 1918.
6. "Les syndromes par lesquels se traduisent les blessures des racines ou des nerfs de la queue de cheval se présentent sous des aspects assez différents suivant la hauteur de la lésion, son étendue et sa profondeur, ce qui se conçoit aisément, si on se rapporte aux notions anatomiques ci-dessus exposées. Néanmoins, il y a toute une série de signes communs aux lésions de la queue de cheval qui servent à les individualiser."
7. Mestrezat: Paris thesis, 1912.
8. Guillain, G.: Rev. neurol. **1**: 513 (May) 1924.
9. Ayer, J. B., and Mixter, W. J.: Radiography Following the Injection of Iodipin into the Spinal Subarachnoid Space, Arch. Neurol. & Psychiat. **11**: 499 (April) 1924.

spinal block by combined cistern-lumbar puncture. This procedure, like that of Queckenstadt, in itself has little localizing value.

Certain French authors have found that, during lumbar puncture, even though the block is incomplete, injection of air in like amount for the spinal fluid with-

Fig. 2 (case 1).—Complete block of lower border of third lumbar vertebra, anteroposterior view.

drawn will produce root pains at the level of the lesion. We have no experience with this method.

After all, the most valuable accessory for accurately localizing spinal block lies in the introduction of from 2 to 3 cc. of lipiodol (iodized oil) into the cisterna magna by Sicard's[10] method. With the patient in a sitting posture, the oil rapidly passes into the spinal subarachnoid space and is checked at the level of the block, which can then be beautifully visualized by roentgen-ray examination with the patient in the erect posture (figs. 1 and 2).

During the last few months the two cases of caudal lesion described below have been diagnosed, and the patients operated on in the Stanford service of the San Francisco Hospital. These cases are of sufficient interest, we feel, to report, as they exemplify most of the foregoing comments.

REPORT OF CASES

CASE 1.—F. B., an unmarried man, aged 27, entered the Stanford surgical service of the San Francisco Hospital, Dec. 28, 1925, complaining of an ulcer of the heel of the left foot. The familial and past history were essentially negative. The present illness began fifteen years previously, at the age of 12, when he was struck in the lumbar region with a baseball, following which he experienced rather sharp pains in the back, radiating down both legs. These pains would come on in the evening after he had played all day, but very little attention was paid to this complaint until about one year later, when it was noticed that he was getting "bow-legged." He then consulted a physician, who placed him on a Bradford frame for eight months with the diagnosis of Pott's disease. Then he was up in a wheel chair for several months, and for the following two years he walked with the aid of crutches, at the end of which time he was able to discard them. On being removed from the frame the patient noticed that the left leg was smaller than the right. Sensory changes began about two years after the accident, and when we saw him sensation was absent over the left buttocks, the posterior part of the thigh, and the outer surface of the left leg and foot. The patient felt that sensory loss had remained stationary for several years. Seven years previously, he had a resection of the left cuneiform, with a transplantation of the extensor hallucis longus to the cuboid.

He entered the hospital for an ulcer of the left heel received, October 1, about two months previously, when he rested his anesthetic foot on the exhaust pipe of a machine, sustaining a severe burn.

The patient was well developed and nourished. The general physical examination was negative. The neurologic examination showed the head and the cranial nerves and lobes of the brain normal. The upper extremities were normal. In the lower extremities, there was slight atrophy associated with weakness of both legs from the knees down, more marked on the left side; flexion and extension of the left ankle were limited; pronation and supination were practically absent on the left; extension of the great toe was absent on account of the tendon being cut. There was no paralysis, rigidity or contractures. There was absent sensation to pain, touch and temperature over the left buttock, the posterior part of the thigh and the outer surface of the leg and foot. Deep muscle sense and vibratory sensation were normal; i. e., the fourth

Fig. 3 (case 1).—Lateral view showing lobulation of obstruction.

and fifth lumbar and the first, second and third left sacral segments were affected (fig. 1). The rectal sphincter tone was poor. Muscular reflexes were: radial, biceps and triceps, present and equal; abdominals, present; cremasterics, absent; patellars, equal and slightly hyperactive; Achilles, absent on both sides; Oppenheim, Gordon and Babinski, absent. The lateral view of the roentgenogram of the lumbar and sacral vertebrae showed the disk between the fourth and fifth lumbar

10. Sicard, J. A.: Rev. neurol. 4: 1264, 1921.

vertebrae intact. The articulation facets were obscured. There was a cystlike absorption of the posterior half of the bodies of the fourth and fifth lumbar vertebrae, as if from pressure rather than from a destructive new growth. The laminae were thin and hazy.

The blood Wassermann reaction was negative. Blood examination showed: hemoglobin, 90 per cent; leukocytes, 11,900; polymorphonuclears, 72 per cent; small lymphocytes, 24 per cent, and large lymphocytes, 4 per cent.

Spinal fluid could not be obtained by spinal puncture, but a cisternal puncture showed the fluid clear and colorless. No calls were present and the globulin was negative. The urine was normal.

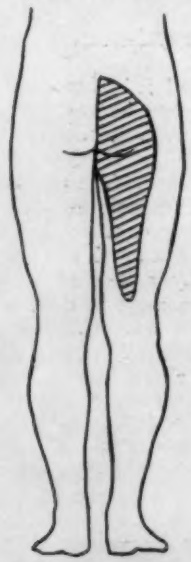


Fig. 4 (case 2).—Back view of area affected by cauda equina tumor, in which there is loss of sensation to light, touch, pain and temperature.

Three cubic centimeters of lipiodol was injected following the cisternal puncture, and roentgenograms taken one hour, twenty-four hours, and forty-eight hours later showed that the lipiodol remained at the level of the lower border of the third lumbar vertebra, a small streak extending slightly lower on the left (figs. 2 and 3). The conclusion was: obstruction at the level of the third lumbar vertebra.

Laminectomy revealed a large solid tumor filling most of the spinal canal and lying dorsal to the fourth and fifth lumbar vertebrae. Section of the tumor showed it to be fibroma. Convalescence was uneventful, and the patient was discharged, Feb. 28, 1926.

CASE 2.—G. S., a Greek waiter, aged 34, unmarried, entered the San Francisco Hospital, Nov. 25, 1925, in the Stanford surgical service, complaining of constipation and pain in the left lower abdominal quadrant and the buttocks. The familial history was negative; the past history was negative, except for a gonorrheal infection.

The present illness began about three and a half years previously, with dull aching pain in the lumbar region, occasionally radiating down both legs to the ankles; the pain was present only at night, waking the patient from a rather sound sleep, and would then increase in severity until he arose in the morning, when it would disappear during the day. After the first six months, pain was present both day and night, and had been slowly increasing in severity, more marked on the right side. At the onset, he complained of a burning pain in the perineum. During the last two and a half years, he had been suffering from rather marked constipation, requiring a laxative every evening. For the last six months he had had polyuria, with occasional periods in which he suffered from dysuria and slight incontinence. There was no impotence. Various diagnoses were made during this period, varying from sacro-iliac disease to colitis.

The patient was fairly well developed, but poorly nourished. General examination revealed a spastic contracted descending colon and gonococci on urethral smear.

Neurologic examination of the head, cranial nerves and the lobes of the brain was negative. In the upper and lower extremities, no paralysis, weakness, atrophies, hypertrophies, rigidity or contractures were present. Sensation to touch, pain and temperature over the right buttock and the posterior part of the thigh was absent; i. e., the areas supplied by the first, second and third sacral segments (fig. 4). There was no loss of deep muscle sense. Vibratory sensation was normal.

Muscular reflexes were: radial, biceps and triceps, present and equal; abdominals and cremasterics, present; patellas, present and equal; Achilles left, absent; right, present on reinforcement.

Roentgenograms of the lumbar and sacral spine showed that the sacrum had six segments. The lateral masses of the first segment had not united perfectly. There were hypertrophic fringes on some of the lumbar vertebrae. The lateral view of the lumbosacral articulation showed no evidence of spondylolisthesis. The top of the sacrum made an angle of 50 degrees with the fifth lumbar vertebra. On account of the lumbar lordosis, this made a weakness at this joint. There was a slight list of the spine to the right. The left pubis was slightly higher than the right. These findings suggested that there was a sacro-iliac slip.

The blood Wassermann reaction was negative. Slightly yellow spinal fluid, obtained by cisternal puncture, the spinal puncture being unsuccessful, gave: a negative Wassermann reaction; Noguchi reaction, plus; Nonne-Apelt, minus; Pandy, plus plus and a colloidal gold curve of 1111222200. The urine was normal. Nov. 4, 1925, about 3 cc. of lipiodol was injected, following a cisternal puncture, and a roentgenogram made later showed a complete block at the level of the third lumbar vertebra (figs. 4 and 5).

Laminectomy was done in two stages on account of the troublesome bleeding encountered. At the first operation, the laminae of the third, fourth and fifth lumbar vertebrae were removed. A very vascular tumor, the size of a cherry, was uncovered to the right of the cord at the level of the foramina between the fourth and fifth lumbar vertebrae. On removal of the posterior surface of the first and second sacral vertebrae, which was very thin, a mere bony shell, a cyst the size of a large walnut, which contained a clear, deep golden yellow fluid, was opened up. The nerve roots were seen running through the cyst. On account of the bleeding, it was thought advisable to do the operation in two stages. At the second operation the dura was opened and the tumor, an angioma, was approached from below, but uncontrollable bleeding was

Fig. 5 (case 2).—Injected lipiodol arrested at level of third lumbar veretebra.

again encountered. Attempt at removing it had to be postponed. The patient is now receiving deep roentgen-ray therapy. Spinal fluid withdrawn above the tumor at the time of the second operation was quite yellow.

COMMENT

These two cases of cauda equina tumors are illustrations of delayed and incorrect early diagnosis.

Patient 1, treated for Pott's disease, suffered for thirteen years before a correct diagnosis was made. His subjective symptoms, most of this time, pointed

to caudal disease, and future diagnoses were most probably colored by the previous erroneous diagnosis.

Patient 2 presented a suggestive caudal lesion: burning pains in the perineum, radiating pains, increased by recumbent posture and relieved by walking, and severe constipation, which was absent before the present illness. This is a suggestive and important triad of caudal symptoms, which our patient presented for about two and one-half years. Two of these symptoms were present three and one-half years.

1. Both patients presented few positive neurologic findings.

2. The diagnosis of caudal lesion was made preoperatively in each case and confirmed by the intrathecal use of lipiodol, which accurately localized the upper level of the lesion.

Fig. 6 (case 2).—Lateral view.

3. Both these cases conformed, in a general way, to type 2 (middle type syndrome of Roussy and Lhermitte).

4. In case 2, xanthochromic spinal fluid was found below the tumor at operation, and above the tumor even as high as the cisterna magna. This confirms the discovery of Cushing and Ayer.

5. In our cases, Queckenstadt's and Ayer's tests could not be performed, because of the presence of the tumor in the lower lumbar region which prevented lumbar puncture.

CONCLUSIONS

1. Lesions of the cauda equina are more common than supposed.

2. If one keeps in mind the possibility of caudal lesion as the cause of symptoms, systematic examination will result in earlier correct diagnosis in these cases.

3. Lipiodol injected intrathecally has been found by us to be innocuous. It was a valuable adjunct in these cases, not only in confirming the diagnosis, but, what is more important, in localizing the level of the lesion.

ROENTGENOGRAPHY AND THERAPY WITH IODIZED OILS *

W. T. BELFIELD, M.D.
AND
H. C. ROLNICK, M.D.
CHICAGO

Two proprietary iodine-oil compounds, lipiodol and iodipin, extensively used in recent years for roentgenography and therapy, are now known to produce two

Fig. 1.—Normal vasa and vesicles filled with iodized oil through vasotomy; the vesicle fills before the fluid passes out through the ejaculatory duct; this we have observed through the fluoroscope also. Hence the vesicle must be considered a reservoir for spermatozoa.

harmful effects which restrict their usefulness: first, because, virtually nonabsorbable, they may remain in the tissues for indefinite periods, for two years in one instance; and, second, they may cause by prolonged contact irritation and cicatrix formation.[1]

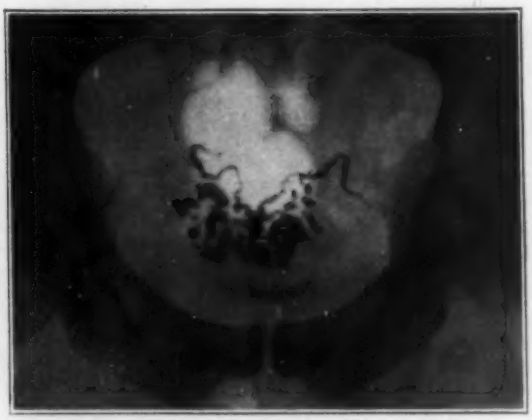


Fig. 2.—Both vasa redundant, kinked and uniting into a single ampulla; both vesicles filled by vasotomy without escape of oil into ejaculatory ducts.

We have studied the therapeutic effects of these and other iodized oils after injection into the seminal ducts through vasotomy, usually bilateral, in sixty-seven men, with immediate roentgenograms in all; the viscosity of lipiodol and iodipin renders the filling of the vesicles difficult and at times incomplete (fig. 3). The failure

* Roentgenograms by L. S. Tichy, St. Anthony's Hospital.

1. Maclaire, A. S.: Am. J. M. Sc. **170**: 874 (Dec.) 1925. Sharpe, W., and Peterson, C. A.: Ann. Surg. **83**: 32 (Jan.) 1926. Sicard and Forestier, quoted by Maclaire. Mixter, W. J.: Use of Lipiodol in Tumor of Spinal Cord, Arch. Neurol. & Psychiat. **14**: 35 (July) 1925. Lichtwitz, O.: Wien. klin. Wchnschr. **39**: 133 (Jan. 28) 1926.

of absorption, observed by others in various tissues, is shown in the persistence of lipiodol in the vesicles and in the connective tissue at the internal inguinal ring (Bogros' space), into which it was intentionally injected by way of the sheath of the scrotal vas (fig. 5).

Iodipin and lipiodol are said by their respective makers to contain unnamed iodine compounds in vegetable oils. Since animal oils are more readily absorbed,[2] we have dissolved iodine and various of its compounds in each of several animal oils and have injected these into the vesicles. Our prime object was therapeutic efficacy with harmlessness, which properties we have found in several solutions, notably two:

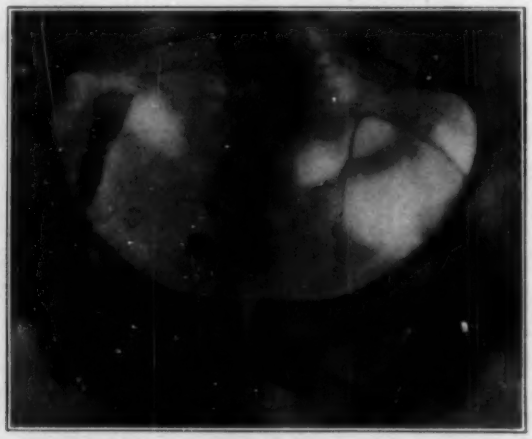


Fig. 3.—Right, silver wire passed into vas through vasotomy, arrested by kink in vas; left, vas and vesicle incompletely filled.

Iodol, 10 Gm., in cod liver oil, 40 cc. Of this, iodine constitutes more than 18 per cent by weight.

Thymol iodide, 10 Gm., in 30 cc. of cod liver oil. The iodine content of this is about 12 per cent. Either solution is prepared by stirring together the two ingredients.

Either liquid clears the vesicles of gonococci and of the pyogenic bacteria commonly found in them.

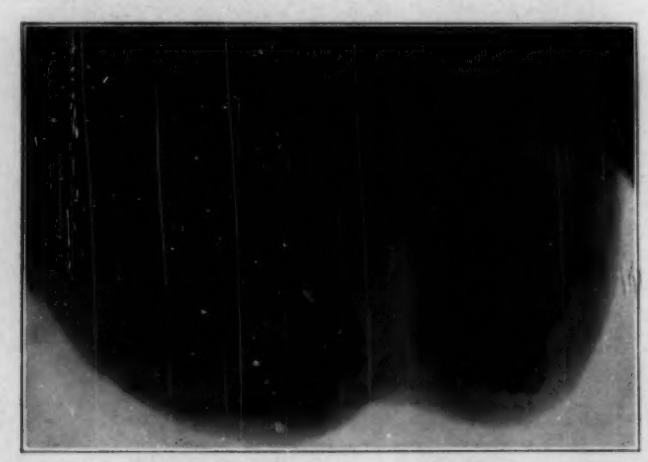


Fig. 4.—Iodized oil forcibly injected downward in living subject through vasotomy fails to pass beyond the tail of the epididymis; no pain during injection nor irritation afterward.

They are sufficiently fluid to fill the vesicles without undue pressure. They are absorbable and do not produce cicatrix formation. Hence their use nullifies the only criticism of vasotomy; namely, the possible occlusion of the vas at the site of injection through perivasal cicatrix formation. We now frequently use iodized oil for vasotomy instead of collargol solutions.

It is known that disease conditions of the deep urethra, such as chronic infection or stricture, may be accompanied with such atony of the ejaculatory ducts as to permit the entrance of the urine into the vesicles during urination;[3] there sometimes results the constant presence in the vesicles of urinary salts, including triple phosphate crystals and urates. We have in such cases injected from the meatus into the bladder medicaments which the patient then voids while the urethra is compressed. For this method of treating the deep urethra and vesicles, the iodized oils are especially adapted; for should they pass from vesicle into vas—which Rolnick[4] has shown seldom happens—they go no farther than the tail of the epididymis, where they produce neither present pain nor subsequent irritation (fig. 4).

The iodol-oil mixture gives a fair roentgenographic shadow of the vesicles (fig. 1), less dense than that furnished by the customary collargol 10 per cent solution, or by lipiodol. We have not used it elsewhere; but since roentgenograms of the vesicles are unusually elusive—for example, a 20 per cent solution of sodium iodide or a 10 per cent solution of sodium tetraiodophenolphthalein, injected into the vesicles gives no distinct shadow—it is possible that these iodized oils may be found useful in other fields as harmless and inexpensive substitutes for lipiodol and iodipin.

Fig. 5.—Persistence of lipiodol in Bogros' space (*A*) and vesicles thirty-seven days after injection; the oil injected toward the body within the sheath of the scrotal vas diffused through Bogros' space but did not enter sheath of pelvic vas.

INDUSTRIAL HERNIA

Attention is called to the clinical importance of Bogros' space, especially to industrial surgeons. The sheath of the intrapelvic vas is usually not continuous with the sheath of the scrotal vas.[5] Each segment ends in the intervening loose connective tissue at the internal inguinal ring, Bogros' space (fig. 5); hence infections traversing the sheath of the vas from the vesicles diffuse into this space, causing tender swellings, even suppuration, at the internal ring, which simulate hernia. Although a description of such imitation hernias incidental to

2. Physiologic Researches on the Resorption of Oil Injected Subcutaneously, Paris Letter, J. A. M. A. **86**: 49 (Jan. 2) 1926.

3. Belfield, W. T.: Vasostomy—Radiography of the Seminal Duct, J. A. M. A. **61**: 1867 (Nov. 22) 1913.

4. Rolnick, H. C.: Surg., Gynec. & Obst. **42**: 667 (May) 1926.

5. Rolnick, H. C.: J. Urol. **14**: 371 (Oct.) 1925.

pelvic infections was published a half century ago by Hutchinson,[6] and by others[7] subsequently, it has received scant attention from surgeons or urologists. Yet the need for this knowledge is now more urgent than ever before because of recent legislation requiring compensation for industrial injuries, which has produced a large crop of pseudo "industrial hernias." Many

Fig. 6.—*A*, lipiodol injected into sheath of left vas; iodol in cod liver oil into sheath of right vas; *B*, same field twenty-one days later: lipiodol unabsorbed, iodol in oil nearly all absorbed.

of these have been recognized by urologists as infections that have traversed the vas to Bogros' space from the vesicles; and many such industrial hernias have been cured by treatment of the infected vesicles.[8] Wesson,[9]

Fig. 7.—Relation of vasa and vesicles (filled with iodized oil) to ureters; catheter in right ureter; sodium iodide, 15 per cent, in left ureter and pelvis.

as consultant in industrial insurance, personally observed in two years forty-seven instances in which traumatic hernia had been diagnosed, and in many of which herniotomy had been advised. In only one was hernia found; in all there was a tender swelling about the internal inguinal ring, and in all there was pus in the vesicles. Treatment of these infected organs abolished the pseudohernia in many instances.

For many surgeons and physicians, the seminal vesicles do not exist; thus in the Manual of Periodic Examinations recently issued by the American Medical Association they are not named, though the prostate is recognized as a possible seat of infection. Obviously, the industrial surgeon cannot safely ignore the seminal vesicles, because of their relation to industrial hernia, so called.

31 North State Street.

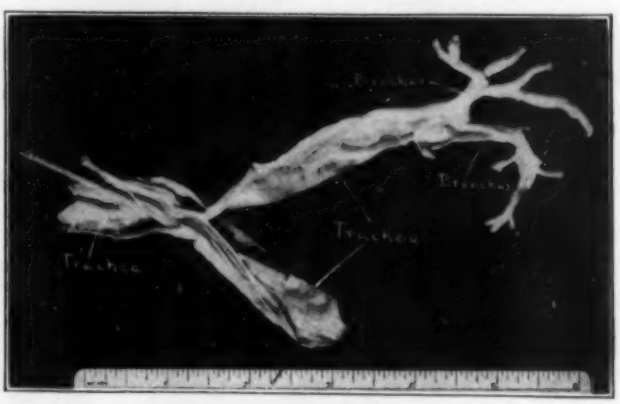
6. Hutchinson, J.: M. Times & Gaz., April, 1871, p. 447.
7. Kocher, T.: Die Krankheiten der männlichen Geschlectsorgane, 1887, p. 240. Guiteras, R.: Urology **2**: 661, 1912. Nielson, J. M.: Retroperitoneal Pelvic Abscess in the Male, J. A. M. A. **86**: 683 (March 6) 1926.
8. Guiteras (footnote 7, second reference).
9. Wesson, M. B.: Industrial Hernia Versus Seminal Vesiculitis and Vasitis, California & West. M. J., February, 1926.

Clinical Notes, Suggestions and New Instruments

DIPHTHERITIC CAST OF BRONCHIAL TREE*

PERRY A. BLY, M.D., ROCHESTER, N. Y.

A woman, aged 34, was admitted to the Rochester Municipal Hospital on the sixth or seventh day of illness with a clinical diagnosis of laryngeal diphtheria.



Diphtheritic cast of bronchial tree.

Soon after her arrival, she coughed out a large piece of membrane which proved to be a cast of the trachea, both bronchi, and several bronchioles. Membrane also extended from the anterior nares to the nasopharynx. Antitoxin had not been given. Cultures were positive for Klebs-Loeffler bacilli. Death occurred twenty-four hours later.

MANEUVER TO FACILITATE PASSAGE OF CATHETER THROUGH A MARKEDLY TORTUOUS URETER FOR SECURING ROENTGENOGRAMS

BRANSFORD LEWIS, M.D., AND GRAYSON CARROLL, M.D.,
ST. LOUIS

A recent experience was interesting and valuable for developing a maneuver that paved the way to the passage of a ureteral catheter up a ureter that at first proved impassable both to the catheter and to the fluid introduced for roentgenography.

Mrs. W. B., aged 71, was extremely weak and decrepit, and it was highly desirable to make a definite diagnosis of the renal condition. At cystoscopy, January 19, on the left, the catheter passed readily, but on the right side it was obstructed within an inch of the lower orifice. Several different sizes and kinds of catheter were used successively, but nothing could be made to go farther than the one inch. Holding this in place as best we could, 12 per cent sodium iodide solution was injected and a roentgenogram taken which gave us a clue

* From the Rochester Municipal Hospital.

at least to the situation, as shown in figure 1. The kidney evidently was down in the pelvis leading to tortuosity and angulation of the ureter to such a degree that it could not be threaded with the catheter; and the catheter was obstructed so low down in the ureter that the fluid could not be made to go through the full length of the channel. It occurred to

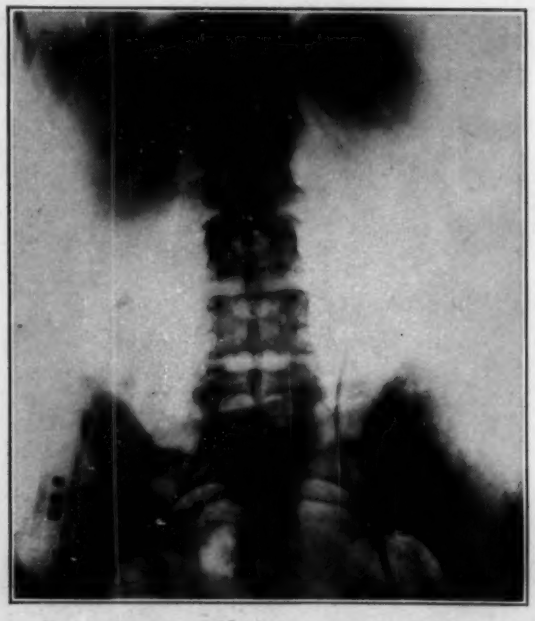


Fig. 1.—Marked tortuosity and sharp angulation of right ureter, preventing the passage of a catheter and permitting only partial injection for a ureterogram, with no pyelogram evident.

us that if we could elevate the pelvis of the patient, and manipulate and push upward into the abdomen the involved right kidney, it might straighten out the ureter enough to

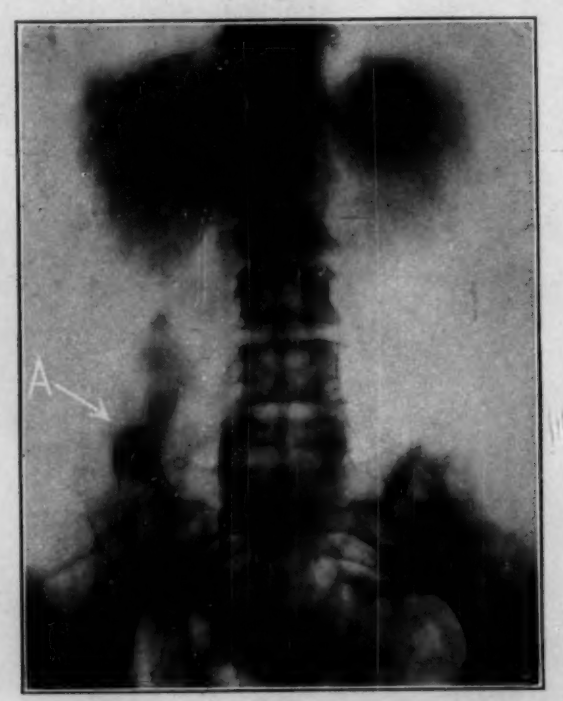


Fig. 2.—The right ureter, less kinked and tortuous, permits the ascent of the catheter (which is seen within the ureter). Ureterogram and pyelogram (*A*) show size and course of ureter and location of dilated kidney pelvis.

permit the transit through it of the catheter. This was tried out, January 22, and it proved successful. While the kidney was maintained at as high a level as possible, the ureteral catheter was gradually pushed upward, meeting with, but by successive manipulations passing, the several angulations shown in both figures 1 and 2, and finally reaching the neighborhood of the kidney pelvis; after which the sodium iodide solution was successfully injected and a good roentgen-ray demonstration was attained. This showed a pyonephrotic kidney on the right side situated almost within the pelvis, and a tortuous and angulated ureter throughout.

The lesson to be deduced from this case is the success of straightening out the ureteral channel by the maneuver described for the purpose of permitting the passage of the ureteral catheter for either diagnostic or therapeutic purposes.

550 Century Building.

DEFORMITY OF THE AIR BUBBLE OF THE STOMACH IN CARCINOMA *

JACOB BUCKSTEIN, M.D., NEW YORK

Consultant in Gastro-Enterology, U. S. Veterans' Bureau; Associate Roentgenologist, in Charge of Gastro-Intestinal Roentgenology, Bellevue Hospital; Lecturer in Gastro-Enterology, New York Polyclinic Medical School and Hospital

In a fluoroscopic survey of the abdomen, an important factor that may be overlooked is the appearance of the magenblase, or air bubble of the stomach. The normal air bubble (fig. 1)

Fig. 1.—Appearance of normal air bubble of stomach, indicated by arrow.

Fig. 2.—Deformity due to projection within bubble of a mass, making the base convex.

Fig. 3.—Deformity due to projection of irregular mass; base of bubble irregular.

Fig. 4.—Extreme deformity, almost total disappearance, of bubble, because of an irregular infiltrative mass.

has a wide variation as to size and shape, but all agree in the absence of any irregularity in contour. By a careful inspection of this region, irregularities due to the projection within it of an infiltrative mass may be noted, and a diagnosis of carcinoma of this region made, even prior to the administration of a barium meal. The barium, however, by coating the mass, may bring it into clearer relief.

In order to emphasize the significance of the deformed bubble, I am including the roentgenograms of three cases of operatively demonstrated carcinoma of the cardiac zone of the stomach. These cases represent various degrees in deformity, from the crescentic deformity of the base, due to the invading mass, as noted in figure 2, to the almost total obliteration of this region, noted in figure 4.

1 West Eighty-Fifth Street.

* From the radiographic department, Bellevue Hospital, Dr. I. Seth Hirsch, director.

A CORNEAL SHIELD*

ALFRED W. ADSON, M.D., AND ALBERT A. SCHROEDER,
ROCHESTER, MINN.

Following division of the sensory root of the gasserian ganglion for the relief of trigeminal neuralgia, a subsequent anesthesia remains over the skin, the cornea and the conjunctiva supplied by the trigeminal nerve. This anesthesia is a sequela that the patient must accept in lieu of the excruciating

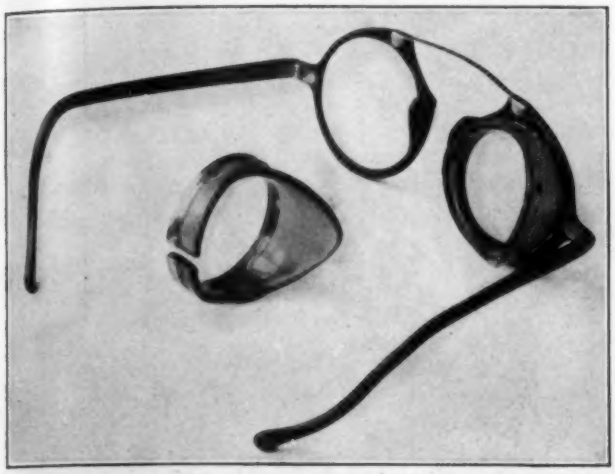


Fig. 1.—Eye cup of the corneal shield, which is constructed of zylonite and may be molded or ground to fit any orbit; a metal band holds the lenses securely in place; the cup is 42 mm. in diameter, and will fit any standard 42 mm. frame.

pain that is associated with the disease. The anesthesia is not of any particular significance except in the cornea, where it allows the entrance of foreign bodies into the eye and the consequent abrasion of the cornea without the patient's knowledge. Injuries of this kind are extremely serious, since postoperative corneal ulcers heal slowly and often fail to respond to the usual treatment; they may result even in serious opacities of the cornea and finally in loss of vision. Hence, it is

Fig. 2.—*A*, Lateral view of corneal shield and frame. The cup is fitted to a specially constructed frame. This type of frame is recommended, since it fits more satisfactorily than the saddle-bridge frame, and can be worn with greater comfort; *B*, corneal shield in place in frame adjusted to a patient who previously had an operation for trigeminal neuralgia.

highly imperative that the patient protect the cornea, on the side operated on. For this purpose, a special corneal shield has been devised.

The corneal shield possesses the merit of excellent protection to the cornea, and can be made to fit any substantial frame. It can be ground or molded to fit any orbit, and carries any lens that may be required for refractive errors. It is made of crystal and zylonite, is more or less inconspicuous, and is light enough to avoid pressure on the cheek. Therefore, it is ideal for patients who have been subjected to the operation on the gasserian ganglion or division of a sensory root; it may also be used for glasses for persons who wish protection for the eye against the entrance of foreign bodies.

* From the Mayo Clinic.

PARAFFIN IN SAC OF INGUINAL HERNIA*

EDMUND ANDREWS, M.D., CHICAGO

P. C., a man, aged 49, entered the hospital with the diagnosis of inguinal hernia. He was not a suitable subject for surgery on account of advanced arteriorenal disease. However, in the right groin was an irregular mass measuring about 5 by 12 cm. It was largest at its medial end, where it lay anterior to the pubis. At the lower end it was freely movable but seemed to enter the inguinal canal, where it tapered off and was lost in the deeper structures at the level of the internal ring. It was sharply defined, lobulated, not in the least tender to touch, and caused no discomfort. It did not give any impulse on coughing or straining. Gradual firm pressure could mold this mass into varying shapes.

Hernial sac distended with paraffin; cord in groove in mass; sac entirely free from surrounding structures.

The patient said that fourteen years before he had had a hernia on the right side and that some physician had injected it with paraffin causing this lump. Since then he had had no difficulty whatever. It was felt, therefore, that there was a very real danger of malignant changes and that the paraffin should be removed.

When the canal was opened, I was surprised to find that there were no adhesions. The needle had evidently entered the empty hernial sac and distended it. This distended sac lay exactly as free as any other hernial sac, and it was very easily freed by blunt dissection up to its neck. As shown in the illustration, the cord lay in a groove in the wax. The paraffin filled the sac up to its opening into the abdomen, and it was with considerable difficulty that I could reach the empty part. The hernia was closed without any difficulty in the usual manner.

The interesting points in this case are, first, that it was possible by such means to produce a cure of a hernia which was described as being quite large. The dangers of such a procedure are evident. In the first place, one could not

* From the Department of Surgery, University of Illinois College of Medicine.

insert the needle into the lumen of the sac one time in twenty. If the sac had not been empty, serious complications would inevitably have resulted. Second, this foreign substance lay inert in the tissues for fourteen years without giving rise to any disturbance. Paraffin injections as a rule run a very different course. The material breaks up into small droplets, which spread through the tissues, causing enormous scar tissue production, which is exceedingly liable to malignant changes. That such was not the case here may perhaps be attributed to the fact that it lay within a synovial sac which was able to maintain its integrity and prevent these untoward sequelae.

122 South Michigan Avenue.

Special Article

THE TECHNIC OF MEDICATION

A SERIES OF ARTICLES ON THE METHODS OF PRESCRIBING AND PREPARING, THE INDICATIONS FOR, AND THE USES OF VARIOUS MEDICAMENTS *

BERNARD FANTUS, M.D.
Associate Clinical Professor of Medicine, Rush Medical College
CHICAGO

(Continued from page 1769)

ENEMAS

Rectal injections, also known as enemas, clysters or lavements, may be large or small; either may be given high or low. An enema of less than half a liter might be considered a small enema; of more than half a liter, a large enema. When a rectal injection is given by means of a syringe with a short tip, it is deposited just within the sphincter of the anus, and is then known as a low enema. A high enema is given with a soft rubber tube (colon tube) introduced as high up in the rectum as possible, but not more than from 4 to 6 inches. The lower part of the rectum, where the short tip deposits the injection, is normally very intolerant of distention, which is responsible for the prompt evacuation of any fecal matter that arrives in this part of the bowel. For this reason, even a small enema, when given low, may cause evacuation. The upper part of the rectum, which is reached by the high enema, is more retentive as well as more absorptive.

Retention Enemas.—It is always well to precede a retention enema by a cleansing enema, so as to unload the lower bowel of fecal matter that may be contained in it, thereby lessening distention and favoring retention. After this cleansing of the lower bowel, one should wait for at least an hour before introducing the retention enema to permit the excitation caused by the evacuant enema to subside. It is furthermore desirable to make a retention enema as small in bulk as possible. A low retention enema should not be larger than 100 cc. in bulk, not more than from 30 to 60 cc., if possible; and "micro-enemas," rectal injections of very small bulk (from 15 to 30 cc.), are still better. While, other things being equal, the smaller in bulk the enema the better, to be retained, enemas must be quite devoid of irritating properties. Hence, unless the solution can be rendered unirritating within the limits of the bulk that can be retained when given low, the high technic will have to be resorted to. Thus given, less than 300 cc. can usually be retained voluntarily as long as desirable. The retention of an irritative substance may be favored by making its solution as nearly isotonic as possible, and by using colloidal fluid, such as starch water (1 per cent). If the fluid is introduced very slowly and steadily, the rectum does not become as readily aware of the distention, and retains a quantity of fluid that would otherwise be expelled. Giving the enema at the body temperature favors retention, as extremes of temperature excite peristalsis. Roentgen-ray examinations have shown that position, provided the patient is recumbent, has little to do with favoring the inflow of the enema, unless the knee-chest position is employed. The patient should be instructed to indicate by a sign—such as the raising of a finger—when he has the sensation that he could not hold any more. It is then usually best not to attempt to introduce more; and, if the quantity injected was quite insufficient for the purpose intended, to repeat the procedure in an hour or two. When the nozzle of the syringe is withdrawn, a napkin may be pressed against the anus. The patient should occupy the recumbent position for at least an hour after the injection, and should be instructed to resist any inclination to evacuation as much as possible.

The most practical apparatus for the hands of the untrained, by means of which to give such injections to infants and children, is a somewhat pear shaped soft rubber "ear syringe." One of soft rubber is better than one with a hard rubber tip, for the latter might inadvertently injure the little one, should it jerk suddenly and unexpectedly. These syringes hold about a wine-glassful of fluid, which is as much as or more than should be injected at one time in an infant. During the injection, the bulb should be squeezed as slowly and gently as possible. If the syringeful is not retained, the next hour half the quantity might be introduced. The enemas are repeated at two hourly or even hourly intervals in accordance with the amount retained at each injection. In this manner 20 cc. of fluid an hour may generally be introduced into the system of infants, an income of considerable value in conditions of water starvation present or threatening, as in cases of obstinate vomiting and profuse sweating or when, because of painful deglutition or nasal obstruction, the infant does not take fluid as well as it should. Sometimes the giving of nasty medicines may so prejudice the infant—and the tendency to prejudice is the greater the lower the mentality—against any fluid administered that it even refuses food and drink. In such cases, rectal administration of food and fluid may have to be resorted to for a while. The difficulty might have been avoided altogether, if the medicine had, in the first place, been given by the bowel, which when the technic detailed above is employed, is many times easier than getting the medicine swallowed. When acidosis is either present or threatened, the addition of 2 per cent of sodium bicarbonate is probably of advantage and of 10 to 20 per cent of commercial glucose [59] ("corn syrup") still more important.

For the adult a medium sized soft rubber catheter fitted to the barrel of a glass syringe (whose piston has been removed), to serve as a funnel, is probably the safest means of administering such injections, in the hands of the untrained, as with this equipment an excess of pressure cannot be produced. A common

* This is the twenty-fourth of a series of articles on "The Technic of Medication." When completed the articles will be assembled in book form.

59. It would be well if the term dextrose were employed whenever the pure *d*-glucose, now official, is desired, and the word glucose used for the syrupy mixture on the market.

cause of failure of retention is the use of a "fountain syringe" or similar irrigator hung so high as to deliver the fluid at so excessive a rate and pressure that it is rejected quite as fast as it is squirted in. In the adult there should be no difficulty in having 50 cc. of fluid retained every two hours, and more if necessary.

It seems that this method of intermittent introduction of fluid is superior to the once popular continuous drip method of administration, which requires the constant presence in the bowel of a tube, which becomes irksome to the patient and demands so much care and attention on the part of the attendants as to make it quite unpopular with the nurses. Nevertheless, as this method may be of value in cases in which maximal quantities of fluid are to be introduced, the following quotation from its originator, John B. Murphy,[60] who perfected it for the treatment of perforative peritonitis, will have to suffice as directions for the technic. By means of it, it is reported, as much as 30 pints of physiologic sodium chloride solution has been administered in twenty-four hours to a child 11 years old and it was all retained.

> The fluid should be administered through a fountain syringe to which is attached a three-eighths inch rubber hose fitted with a hard rubber or glass vaginal douche tip with multiple openings. This tube should be flexed almost to right angles 3 inches from its tip. A straight tube must not be used, as the tip produces pressure on the posterior wall of the rectum when the patient is in the Fowler position. The tube is inserted into the rectum to the flexion angle and secured in place by adhesive strips binding it to the side of the thigh so that it cannot come out; the rubber tubing is passed under the bedding to the head or foot of the bed, to which the fountain is attached. It should be suspended from 6 to 14 inches above the level of the buttocks and raised or lowered to just overbalance hydrostatically the intra-abdominal pressure; i. e., it must be just high enough to require from forty to sixty minutes for 1½ pints to flow in, the usual quantity given every two hours. The flow must be controlled by gravity alone and never by a forceps or constriction on the tube, so that, when the patient endeavors to void flatus or strains, the fluid can rapidly flow back into the can, otherwise it will be discharged in the bed. It is this ease of flow to and from the bowel that insures against overdistention and expulsion onto the linen. The fountain had better be a glass or graded can, so that the flow can be estimated. The temperature of the water in the fountain can be maintained at 100 degrees by encasement in hot-water bags [or by partial immersion of an electric light globe]. The fountain is refilled every two hours with 1½ to 2 pints of solution. The tube should not be removed from the rectum for two or three days. When the nurse complains that the solution is not being retained, it is certain it is not being properly given; even children tolerate proctoclysis surprisingly well.

The author believed that, next to a conservative technic of the operative procedure, proctoclysis is second in importance as a life saver in perforative peritonitis.

McClanahan[61] describes a modification of this method that he considers practically fool-proof. The apparatus consists merely of an irrigating can and a rectal tube with the end cut off. The can rests on a small table at the bedside at about the level of the patient's rectum, and care should be taken at all times that the top of the level of the fluid in the can is not more than 4 inches above the level of the rectum of the patient. The rectal tube extends from the can, under the bedclothes, into the rectum of the patient. No regulation of flow is needed, as a constant to and fro communication is maintained between the large bowel and the container at the bedside.

Nutrient Enemas.—These are employed when it is impossible or undesirable to introduce food into the stomach, or when it cannot be retained. As the colon has practically no digestive capacity, and fat is practically not absorbed from it, the use of milk, egg or meat is irrational, and to "predigest" them unnecessarily troublesome. Dextrin or dextrose, albumose-peptone, and alcohol are the nutrients to be used. As dextrose is isotonic in from 5.2 to 5.4 per cent solution, and it is better, when adding it to sodium chloride solution, to adjust the total osmotic tension to the physiologic by taking half of each, as 27 Gm. of dextrose and 4.5 Gm. of sodium chloride to 1,000 cc. of water, it will be seen that the amount of carbohydrate that can thus be introduced is rather small. Dextrin, on the other hand, is colloidal and nonirritating, while easily converted into dextrose by the ever present diastase. Hence from 10 to 15 per cent of dextrin might be employed, giving us two or three times the nutritive value of dextrose enemas. As dextrin has no osmotic pressure, the addition of salt to produce isotonicity is required. Albumose-peptone, such as Witte peptone, may be added to enemas in quantities of from 5 to 10 and even 20 per cent; and it has been shown that the presence of salt in small quantity favors its absorption. The quantity of alcohol employed should not exceed 3 per cent.

The following general rules on the administration of nutrient enemas may be of value:

Not more than three nutrient enemas should be given in the twenty-four hours, at about eight hour intervals. The amount should at first not exceed 150 cc., to be gradually increased to 300 when given as ordinary enemas, though on drop by drop instillation (Murphy technic) the quantity may reach 1 liter. After each administration the patient should keep as quiet as possible for at least two hours, and suppress any desire to evacuate the bowel. Of course, patients who need nutrient enemas are kept in bed continuously, as rest in bed lessens the consumption of calories by at least 25 per cent. To favor retention, tincture of opium may be introduced, in small doses given in a micro-enema about thirty minutes previously.

A cleansing enema daily is advisable. This should precede the nutrient enema by about an hour. Introducing other enemas in the intervals between the nutrients is undesirable, as it lessens the chances of retention. It is best to give the nitrogenous and the carbohydrate enemas separately. In accordance with these considerations, von Noorden[62] proposes the following formulas: Enema 1 = albumose-peptone, 60 Gm.; sodium chloride, 2.5 Gm.; alcohol, 9 cc.; water, 300 cc. Enema 2 = dextrin, 100 Gm.; sodium chloride, 2.5 Gm.; alcohol, 9 cc.; water, 300 cc. For drop by drop enemas, the concentration of the dextrin had better be reduced to 15 per cent; that of the albumose-peptone, to 10 per cent. To calculate the caloric income on the basis of the composition of such enemas is fallacious, as a certain proportion of the nutriments is undoubtedly decomposed by bacteria, and thus becomes useless to the system. Hence rectal alimentation is slow starvation; but the starvation is slower than it would be without the nutrient enemas.

(To be continued)

60. Murphy, J. B.: Perforative Peritonitis, General, Free, Suppurative, Surg., Gynec. & Obst., June, 1908, pp. 565-598.
61. McClanahan, B. V.: Advantages of Proctoclysis by the Flush Method, J. A. M. A. **76**: 174 (Jan. 15) 1921.
62. Von Noorden, Carl: Ueber rectale und parenterale Ernährung, Therap. Halbmonatsh. **35**, Jan. 1, 1920.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 12, 1926

THE NATURE OF GASTRO-INTESTINAL MOTILITY

Motility is one of the striking functions of the alimentary canal. The orderly propulsion of its contents is an essential response to the presence of food; when for some reason the muscular contractions of the gastro-intestinal tract become disorderly, manifestations ranging from mild distress to highly untoward effects may arise. In the genesis of both the normal and aberrant phenomena of alimentary movement, extrinsic and intrinsic nervous factors as well as the muscular tissues may be concerned. What are the respective rôles of each? On the answer to this question will depend, in no small degree, all measures of relief or promotion that are directed toward conditions of gastro-enteric motor functions.

The principal types of gastro-intestinal motility, as they have recently been summarized,[1] are peristalsis and hunger contractions in the stomach, peristalsis and rhythmic segmenting contractions in the small intestine, and peristalsis and antiperistalsis in the large intestine. Gastro-intestinal motility of all these types has been observed following section of the extrinsic nerves supplying the stomach and intestine. Consequently, it is generally assumed that this motility, though normally subject to central nervous control through the extrinsic nerves, originates in the neuromuscular mechanism in the walls of the stomach and intestine.

In attempting to ascertain whether motility of certain of these types is initiated in the enteric nervous system or in the enteric musculature, Thomas and Kuntz [1] of the St. Louis University School of Medicine have studied the consequences of administration of nicotine in doses sufficient to paralyze the most peripheral elements of the enteric nervous mechanism. They observed that the rhythmic gastric and intestinal movements persist even under these conditions; therefore the capacity to contract rhythmically seems to be an inherent property of the gastro-intestinal musculature. The St. Louis investigators have also noted that the tonus of the muscle and the amplitude of the contractions undergo frequent changes, under experimental conditions, while the enteric nervous mechanism remains functional. Such changes do not occur following complete paralysis of the enteric nervous system. The rate of the rhythmic contractions is not materially altered by conditions affecting the nervous mechanism, but is altered by conditions affecting the muscle. It is concluded that although the capacity to contract rhythmically is probably inherent in the gastro-intestinal musculature, motility of this type would be functionally inadequate in the absence of nervous control. The enteric nervous mechanism brings about variations in the tonus of the musculature and the amplitude and force of the contractions, and initiates and coordinates peristaltic and other reflex movements in response to local stimuli. Under normal conditions, these activities are subject to some degree of control by the central nervous system through the extrinsic nerves. Without the participation of nervous control, the motor activities of the alimentary canal show a mechanical regularity quite unlike the modulated and extremely variable activity that characterizes the normal viscus. Recurrent changes in the type of rhythmic activity, frequent modifications of tonus, and amplitude of contractions are the characteristics of a mechanism guided by a certain degree of nervous control that determines its unique functional responses.

1. Thomas, J. E., and Kuntz, A.: A Study of Gastro-Intestinal Motility in Relation to the Enteric Nervous System, Am. J. Physiol. 76: 606 (May) 1926.

SOME RECENT CONTRIBUTIONS OF CHEMISTRY TO MEDICINE

The basic sciences on which medicine is founded have assumed individual prominence at different times. Much medical research at present, if concerned with fundamentals and not with purely superficial aspects, requires the resources of chemistry. Within recent years, especially, this science has aided in many of the important advances in medicine. In his little book, "Chemistry and Recent Progress in Medicine," Dr. Julius Stieglitz of the University of Chicago discusses the modern additions to therapeutics in the field of preparative chemistry and the chemical explanations furnished for some of the bodily functions and processes.

Among the new drugs, ethylene has been exceedingly prominent. A substance long known to chemistry is suddenly shown to possess therapeutic value. New drugs for special phases of the treatment of syphilis are being proposed from time to time, usually chemical modifications of arsphenamine. Sulpharsphenamine and tryparsamide are examples of this group.

The antiseptic properties of the aniline dyes, first discovered by Churchman [1] in 1912, when he observed that after certain gram-positive bacteria had been mixed with gentian violet they failed to grow, has, in the succeeding years, been put to therapeutic use. First employed locally, as in the lavage of joint infections, gentian violet was given intravenously in 1923 for generalized infections.[2] Mercurochrome-220 soluble is now used intravenously in septicemias and other generalized infections, and locally to the point of replacing iodine.

Besides substances foreign to the body, preparative chemistry is concerned with the isolation and preparation of products present in the normal body and necessary for health, but absent in certain disease conditions. Insulin is an example. Pituitary extract, epinephrine and thyroxin have been known longer, and the active principles of the ovary and testis remain to be identified and isolated.

While the foods that contain vitamins and the effects of their absence can be determined by purely biologic means, the real nature and properties of these elusive substances will be discovered only by chemical analysis. An important start has been made in the case of vitamin A in the work of J. C. Drummond.[3] Using the unsaponifiable fraction of cod liver oil, about 1 per cent of the total, he has separated the 10 to 15 Gm. of vitamin-containing material from 10 Kg. of the oil. Of this, only 0.005 mg. is needed daily for the normal growth of a rat. He has found that this substance contains only carbon, hydrogen and oxygen, but its exact composition remains to be determined. The chemical study of vitamin B proceeds rapidly. Two years ago, Seidell [4] prepared from brewers' yeast a crystalline picrate which has the antineuritic properties of vitamin B and for which he determined the chemical formula. W. H. Eddy [5] also obtained a highly active product from yeast, which has the relatively simple formula $C_5H_{11}O_3N$. This substance enabled growth of young rats fed on a diet lacking in vitamin B. Vitamin C has proved rather more difficult to handle, as it is readily destroyed by oxidation with atmospheric oxygen. However, Zilva [6] has succeeded in obtaining it in far more concentrated form than that in which it exists in nature, so that 0.15 mg. is a sufficient daily dose for guinea-pigs and monkeys. The discovery of the existence of the antirachitic substance now called vitamin D in the sterols of certain fats such as cod liver oil, and in cholesterol and other substances after they have been exposed to ultraviolet rays, is an important contribution to the knowledge of that prevalent condition. These excellent results tend to dispel the rather common idea that vitamins are indefinite or hypothetic "principles," instead of true chemical entities which can be subjected to ordinary laboratory manipulations and thereby purified at least to some extent.

Equally elusive are the toxins and antitoxins, but progress is being made toward their isolation and the analysis of their nature. Their relation to the proteins is being gradually worked out, and the substances for therapeutic use are being more highly concentrated and purified, with consequent reduction of untoward reactions. Indeed, the entire subject of immunology is closely related and indebted to chemistry. As Dr. H. G. Wells [7] has said: "The immunological reactions are chemical reactions. . . . The reagents involved are substances endowed with active chemical properties, and they are the product of chemical activity of the tissues of the body."

A few of the achievements of preparative chemistry have been mentioned, and there remains the contribution of chemistry toward explaining the functions and mode of action of different elements in the body. The study of calcium and phosphorus, their normal concentration in the blood and variations from the normal, and the conditions under which calcium phosphate is precipitated, have thrown much light on the problem of rickets. From purely chemical considerations, Howland [8] has set forth the conditions under which calcium phosphate is precipitated to form bone: briefly, when the product of the calcium and the inorganic phosphorus exceeds the solubility product constant for the salt at the given hydrogen ion concentration. A low carbon dioxide tension, such as exists in cartilage and other inactive tissue, favors the precipitation. In the normal child, the product is from 50 to 60; when it falls below 30, rickets is always present; between 30 and 40, rickets is usually present. He has also shown that phosphorus is the deficient element in rickets, being 3.5 mg. or below instead of the normal 5.5 to 6 mg. per hundred cubic centimeters of serum, while the calcium may be normal. One can therefore follow the improvement from an antirachitic agent not only clinically but also by chemical examination of the blood.

Clearly related to clinical medicine is the chemistry of the complex relations between blood serum and cells, and the distribution and movements of electrolytes and water between the two. One practical outcome of this study is the use of carbon dioxide as a respiratory stimulant in carbon monoxide poisoning and occasionally following anesthesia. The conditions governing the movements of salt and water between

1. Churchman, J. W.: The Selective Bacterial Action of Gentian Violet, J. Exper. Med. **16**: 221 (Aug.) 1912. Bacteriostatic Action of the Triphenylmethane Dyes, editorial, J. A. M. A. **78**: 969 (April 1) 1922.

2. Young, H. H., and Hill, Justina H.: The Treatment of Septicemia and Local Infections by Intravenous Injections of Mercurochrome-220 Soluble and of Gentian Violet, J. A. M. A. **82**: 669 (March 1) 1924.

3. Drummond, J. C.: New Facts Concerning the Fat Soluble Vitamins, Lancet, **1**: 272 (Feb. 6) 1926.

4. Seidell, A.: The Preparation of a Crystalline Picrate Having the Antineuritic Properties of Vitamin B, Pub. Health Rep. **39**: 294 (Feb. 15) 1924.

5. Eddy, W. H., cited by Stieglitz: Chemistry and Recent Progress in Medicine.

6. Zilva, cited by Harden, A.: Recent Work on the Chemistry of the Vitamins, Practitioner **116**: 224 (March) 1926.

7. Wells, H. G.: The Chemical Aspects of Immunity.

8. Howland, John: The Etiology and Pathogenesis of Rickets, Medicine **2**: 349 (Nov.) 1923.

the blood and tissues are fundamental in the problem of edema, and from them a universally satisfactory explanation of this much discussed condition may sometime be evolved. Lastly, in the explanation of oxidation and reduction by modern chemistry, we have an attempt at explaining the fundamental processes of life. These reactions occurring in the body can best be studied from the nature of oxidation outside and the principles which control and limit the reaction. The subject is too complex for discussion here, but one can readily appreciate its importance and the value of understanding the processes on which all life rests.

FEDERALIZED MEDICAL TREATMENT VERSUS THE PRIVATE PRACTITIONER

By the Veterans' Act of 1924, Congress authorized hospitalization of veterans at government expense, without regard to the nature or origin of the disability. This treatment of disease at government expense was made available to all veterans in certain classes, without reference to the ability of the individual to provide treatment at his own expense or his right to obtain it from the state or city in which he lived. THE JOURNAL [1] called attention a few months ago to efforts at extension of the scope of this federal aid. May 17, the House of Representatives passed a bill [2] extending such government attentions to cover outpatient treatment as well as hospitalization, and enlarging the term "veterans" to include women who served as army nurses under contracts between April 21, 1898, and Feb. 2, 1901, contract surgeons and contract dentists. This bill is now pending in the Senate.

The government cannot be niggardly in the reward it gives for military service, but treatment and hospitalization for disabilities not incurred in the line of duty cannot be regarded as a recompense for such service. As they have no logical relation to the military or quasimilitary status of the beneficiary and are not proportioned to the military service rendered, they can be regarded only as gratuities. How long before the same reasoning that has provided these nonmilitary bounties may be expected to provide similar arrangements for governmental civilian employees? And if later the families of beneficiaries already on the rolls are placed among the elect, the step will not have gone much farther.

State medicine in this obnoxious form is with us, and is tending to grow under the patronage of the federal government. Physicians and private hospitals even now must compete with the federal government for the practice of those whose disabilities have not originated in government service and who are abundantly able to pay for treatment. If the bill passed by the House of Representatives becomes a law, the private practitioner and the private hospital will have to compete with the government, not only in providing hospital treatment for veterans, but in providing both hospital and outpatient treatment for veterans, contract surgeons, contract dentists and contract nurses. How long such unfair competition will continue is uncertain. But unless the present movement is checked, the outcome is sure: a greater and greater encroachment on the rights of the individual patient and physician.

The House of Delegates has three times passed resolutions voicing its opposition to this type of state medicine. Resolutions, however, accomplish nothing unless backed up by action. That action must come from the rank and file of the physicians throughout the country, who must make known their views to their senators and representatives in Congress. Action must be prompt if the extension of free federal medical service is to be checked.

1. The Trend of Veterans' Relief Legislation: State Medicine editorial, J. A. M. A. 86:278 (Jan. 23) 1926.
2. H. R. 12175, A Bill to Amend the World War Veterans' Act, 1924.

Current Comment

THE PHYSIOLOGY OF "SECOND WIND"

The effects of exercises of endurance are in some ways comparable to the influence exerted by certain types of disease on the body. When carried to excess, the exercises are accompanied, as McKenzie [1] has described the outcome, by acute constitutional exhaustion, shown in breathlessness, from which recovery is rapid; by fatigue of the whole muscular system, from which a rest of a day or two is necessary, and by the chronic or nerve fatigue known as "staleness" among trainers, from which recovery may be a matter of weeks or even months. If the exercise is sufficiently active, the amount of waste material suddenly thrown into the circulation is greater than can be eliminated by the lungs. The breathing becomes rapid and shallow, the pulse quick and fluttering, and the person feels a sense of constriction around the chest; his head swims and throbs, and his face takes on the anxious expression so eloquently telling of the thirst for air. It is a familiar experience, particularly in the running of a race, that after some time the runner may become less distressed than at an earlier period. He is now said to have his "second wind," and can usually continue running with comparative comfort. Varied explanations have been offered for this phenomenon of relief, apparently representing a better equilibrium between the production of waste and its elimination. Thus it is suggested that, as a result of the production of metabolites in the contracting muscles, their vessels may be more dilated, so that the flow of blood through them becomes easier. There is an improvement of the pulse rate and decrease in the respiratory distress. With the advent of "second wind," the urgency of breathlessness fades. The characteristic look of distress disappears from the face, the head becomes clear, and the muscles perform with renewed vigor and elas-

1. McKenzie, R. T.: Exercise in Education and Medicine, Philadelphia, W. B. Saunders Company, 1909.

ticity. A runner can then continue his exercise until he feels the symptoms of general fatigue. In observations made in the Department of Physiology of the University of Pennsylvania, Berner, Garrett, Jones and Noer[2] have noted that the subjective sensation of "second wind" unquestionably comes earlier, the warmer the room conditions and the heavier the work done. The subjective sensations are confirmed by records of the respiratory changes, which show similar effects. The increase in the volume of air breathed with exercise occurs more rapidly in a warm than in a cold room. Neither of these variations appears to be dependent on changes in deep body temperature in the trunk, since at this time the rectal temperature is scarcely altered. As it has been demonstrated that the temperature of the muscles in the limbs is considerably below that of the rectum, the most reasonable hypothesis seems to be that the rate at which the muscle develops its full power to remove lactic acid is determined by its temperature, and that the temperature of the muscle reaches its optimum earlier when the metabolism is high with heavy work, or when the surrounding air is warm. Heavy clothing often facilitates the onset of second wind in vigorous exercise; hence warm weather may not be unfavorable to it.

2. Berner, G. E.; Garrett, C. C.; Jones, D. C., and Noer, R. J.: The Effect of External Temperature on Second Wind, Am. J. Physiol. 76:586 (May) 1926.

TRAINED NURSES

A report published in the Chicago *News* indicates that the Illinois State Association of Nurses, first district, has just put into effect a new policy under which its members are refusing to accept twenty-four hour duty when called on as private nurses by patients in hospitals. The demand means that a person requiring continuous attendance must employ two nurses where formerly he paid only one. For at least five years there has been increasing uneasiness among the medical profession and the public over the changing attitude of the nurse toward her vocation and her labor. What was formerly distinctly an auxiliary in the care of the sick has become split into a dozen professions and specialties, with increasing attention to management and decreasing attention to individual service. There are now nurses engaged in public health work, social service, laboratory technic, mental investigation, dietetics, roentgenology, anesthesia, hospital management, teaching and many other positions. Too few nurses who enter the training school have their thoughts focused on the ideal of personal service to ailing humanity. Rather, it would seem, they are stimulated to the securing of one of the dignified positions that lie within the categories mentioned. Obviously, by this development, the care of the individual sick person has suffered. The possible lack of this care is responsible for the unrest that pervades medical and lay circles in the matter of nursing. At the last annual session of the American Medical Association, the House of Delegates particularly requested the Board of Trustees to look into the nursing situation and to appoint a special committee for the purpose. On previous occasions, other investigative bodies have rendered reports. Granted that there is need for such highly specialized nursing administration as has been mentioned, the needs of the individual sick are primary ones. Apparently, nurses are being trained in technical matters to a point at which dignity suffers when they are asked to undergo the tribulations of personal service. The modification of curriculums should tend to the development of more nurses who will consider the care of the sick their highest ideal.

REGISTRATION UNDER THE HARRISON NARCOTIC ACT

Registration under the Harrison Narcotic Act must be renewed on or before June 30 by physicians desiring to continue to administer, dispense or prescribe narcotics. In registering this year, physicians will receive for the first time the benefit of the reduction in the tax, from $3 to $1. Thus they will save approximately a quarter million dollars through the work of the American Medical Association in securing this reduction. Failure to register carries with it liability to fine and imprisonment, and subjects the tardy registrant to a 25 per cent increase in his tax. A physician desiring the right to distribute, dispense and administer narcotic drugs of all kinds must register in class 4, but a physician who desires the right to dispense the so-called exempt narcotic preparations must register also in class 5. Registration in class 5 is not required of physicians who only prescribe exempt preparations and do not dispense them. A physician registered in class 4 pays no additional tax for registration in class 5, but a physician registering only in class 5 pays a tax of $1. The so-called exempt narcotic preparations include such as contain not more than 2 grains of opium, or more than one-fourth grain of morphine, or more than one-eighth grain of heroin, or more than .1 grain of codein, or any salt or derivative of any of them in 1 fluidounce, or, if a solid or semisolid preparation, in 1 avoirdupois ounce; and liniments, ointments or other preparations that are prepared for external use only, except such as contain cocaine, or alpha or beta eucaine, or the salt of, or any synthetic substitute for, any of them. A preparation to be exempt, however, must contain active medicinal drugs other than narcotics. Dilutions of narcotic drugs made by mixing them with inert substances are not within the exempted class.

Rise of Mental Therapy.—The waves of popularity which have marked the progress of mental therapy are an instructive object lesson. Animal magnetism rose to an immense vogue and fell, hypnotism has risen and declined at least twice, Couéism and autosuggestion are at the apex of the wave today, and a closely allied surge may be seen in the astonishingly immense developments of Christian science, New Thought and other doctrines. It may be concluded that all these movements derive their temporary vitality from the undoubted fact that they do produce results, and therefore include somewhere within them principles of actual objective validity. We may call these principles faith and suggestion, but in this wide sense such terms are little more than a cloak for our ignorance. Whatever these principles may be, it is clear that they are of vital concern to medicine, and it is the duty of medicine to dissect them out from their trappings and allot them a defined place in our therapeutic armory.—Hart, Bernard: *Lancet* **1**:589 (March 20) 1926.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Personal.—Dr. Thomas W. Woodul has been appointed assistant city physician of Pine Bluff.——Dr. Dewell Gann, Jr., Little Rock, recently received the fellowship degree of the Royal College of Surgeons of Edinburgh.——Dr. John C. Swindle has been elected city health officer of Walnut Ridge to succeed Dr. George Max Watkins, resigned.

State Board Election.—At a special meeting of the state board of health, May 17, Dr. Andrew S. Gregg, Fayetteville, was elected president to succeed Dr. Elam H. Stevenson, Fort Smith, and Dr. Rutial O. Norris, Tuckerman, vice president. A committee was appointed to investigate and make recommendations to the board concerning proposed changes in the regulation of dairies and slaughterhouses.

DISTRICT OF COLUMBIA

Reports of Venereal Disease.—The district health officer has issued a circular letter to physicians of the district drawing attention to the reporting of names of patients who have venereal disease. The commissioners formerly instructed the health officer that, for the present, at least, the names of patients with venereal disease, required by a recent law, would not be insisted on, except those who wilfully failed or refused to comply with the directions of physicians to prevent the spread of the disease. The health officer has not, therefore, required the reporting of names. The commissioners have revoked their former instructions to the health officer in this regard. The health officer now requests, therefore, the support of all physicians in carrying out this provision of the law (THE JOURNAL, March 21, 1925).

ILLINOIS

Personal.—Dr. Marion K. Bowles, Joliet, was elected president of the Illinois Business and Professional Women's Association at the annual meeting at Aurora, May 22, succeeding Dr. Annie I. Glidden, Danville.——Dr. Perry H. Wessel has been elected president of the Moline Physicians Club for the ensuing year.——Dr. Noble Van Zant, Grant Park, has accepted a position at the American Hospital at Monrovia, Liberia, which is operated by the American Lutheran Mission in conjunction with the Firestone Rubber Company.

Hospital News.—Contracts have been let for the construction of a fourth floor addition to the Lutheran Hospital, Moline, which will be the first unit of an expansion program to be carried out within the next two years.——The new Mercyville Sanatorium for mental diseases at Aurora, operated by the Sisters of Mercy, was recently dedicated; Dr. Henry J. Gahagan will be the medical director.——The Sisters of Mercy of the Holy Cross have sold the Mercy Hospital, Urbana, to the Servants of the Holy Heart of Kankakee for $200,000, it is reported.——Dr. Edwin S. Hamilton, Kankakee, has been elected president of the staff of St. Mary's Hospital for the ensuing year.

Appraisal of Health Services.—The state department of health, last year, conducted surveys of the health services in fifteen Illinois cities ranging in population from 30,000 to 80,000. A report of these surveys makes up the May-June number of *Illinois Health News*. The standards used in this work were those developed by the American Public Health Association, which assigns a value to each of forty-six items of health service, the total score making 1,000 points. A large part of the work was done by Dr. Thomas Parran, Jr., U. S. Public Health Service, who was assisted by Dr. John W. H. Pollard, Dr. Samuel S. Winner and others. The rating given the cities varied from 812 points for Evanston to 415 points for East St. Louis, and in the following order: Evanston, Rockford, Decatur, Springfield, Oak Park, Peoria, Moline, Cicero, Aurora, Quincy, Rock Island, Bloomington, Danville, Joliet and East St. Louis. The report states that the cities at the top of the list have placed their health departments on a scientific rather than a political basis, and that the greatest handicap to municipal public health work in Illinois arises from the influence of local partisan politics.

Chicago

Week of Special Clinics at Rush.—Rush Alumni and friends are cordially invited to attend the special clinics at Rush Medical College from June 14 to June 18. There is a large variety of clinics being given by members of the faculty.

Medical and Dental Arts Club.—More than 400 members and guests of the Medical and Dental Arts Club attended the dinner, May 27, given at the Sherman Hotel, at the close of which the president, Dr. John S. Nagel, announced that the full quota of life memberships at $1,250 had been exhausted and that the price had been advanced to $1,500. A large number of requests for membership were received at the dinner. Dr. Frank Billings, who spoke on "What a Permanent Home Will Mean to Chicago Physicians," said that he would devote his best efforts toward the realization of this home; Dr. Charles N. Johnson, D.D.S., spoke on "What a Permanent Home will Mean to the Chicago Dental Profession"; Dr. Charles J. Whalen, on "A Center for Our United Professions"; Dr. Charles E. Humiston, "A Professional Building a Demonstration to the Public"; Dr. Edward H. Ochsner, "The History of the Movement." Razing of the old building on the site of the new will probably begin, July 1.

Northwestern's New Medical School.—The exterior of the Montgomery Ward Memorial Medical-Dental Center on the McKinlock Campus of Northwestern University having been completed, the cornerstone was laid with appropriate ceremonies, June 11. Dr. Charles H. Mayo of the class of 1888 gave an address on the campus in the afternoon, and Dr. Frank Billings of the class of 1881 at the banquet in the evening. There was a luncheon at the Furniture Mart, near the campus, to which the several faculties and alumni were invited. Among other documents placed in the cornerstone were a list of the faculty of the medical school from its founding in 1859 to date, a list of all graduates arranged by classes, and a list of the names of the present student body. The new building will be occupied, October 1, and dedicatory exercises will be held later when the auditorium is completed.

Bust of Dr. Talbot.—A marble bust of the late Dr. Eugene S. Talbot was presented to the American Medical Association, June 4, at a meeting in the assembly hall of relatives and friends, and officers of the association. Two friends of many years made the presentation speeches; Dr. George Van Ingen Brown, of Milwaukee, said there was no need of marble to perpetuate the memory of a life so helpful and so well known throughout the civilized world; Dr. Frank Billings spoke of the character and ideals of Dr. Talbot; of his long life of work in the Association and his part in establishing the Section on Stomatology. Dr. Edward B. Heckel, Pittsburgh, chairman of the Board of Trustees, in accepting the bust on behalf of the American Medical Association, said that we are glad to have this concrete evidence of the esteem in which Dr. Talbot was held, but that his ideals would endure longer than the marble itself. The original of the bust stands at the entrance of the stomatologic department of the University of Italy in Rome. It was made for the Italian government by the sculptor Ernesto Gazzero (THE JOURNAL, Dec. 20, 1924).

IOWA

Diploma Mill Head Commits Suicide.—James W. McLennan, head of the alleged diploma mill "Oskaloosa College," and his wife and son, were found dead in the gas-filled basement of their residence at Oskaloosa, May 8, following McLennan's indictment on a charge of using the mails to defraud in connection with the issuance of degrees and diplomas. McLennan is said to have established a corre-

spondence school in Oskaloosa, using the name of the old, but now nonexistent, Oskaloosa College. After a course of study "in absentia," it was the practice of the school to issue certificates purporting to be diplomas to school teachers, ministers and others, conferring, it is reported, "doctor's degrees in everything from pedagogy to chiropody." Letters found in the home revealed that McLennan and his family died in a suicide pact because they lacked funds to fight what they described as an "unjust charge."

MAINE

State Medical Meeting.—The Maine Medical Association will meet at Poland Springs, June 10-12, under the presidency of Dr. Joseph D. Phillips, South West Harbor. Dr. John B. Deaver, Philadelphia, will speak Friday afternoon on "Surgical Versus Medical Treatment of Gallbladder Diseases." Dr. Wendell C. Phillips, New York, president, American Medical Association, will deliver the address at the banquet Friday evening, and on Saturday there will be a symposium on obstetrics, under the direction of Dr. Foster S. Kellogg, Boston, assisted by Drs. Leonard H. Ford, Bangor; Harold W. Garcelon, Auburn; Adam P. Leighton, Jr., Portland, and Ralph L. Reynolds, Waterville.

MARYLAND

Board of Mental Hygiene.—The annual meeting of the state board of mental hygiene and the boards of managers of the state hospitals for the insane and feebleminded with the governor and the director of welfare was held, May 25, at the Spring Grove State Hospital, Catonsville. Dr. Arthur P. Herring, commissioner of mental hygiene, reviewed briefly the work of the board since its organization in 1888, and the building program which the board is planning to submit to the general assembly in January, 1927. A report on the needs of each state hospital was made by the respective superintendents. The discussion was opened by Governor Ritchie.

MASSACHUSETTS

Summer Courses at Institute of Technology.—The Massachusetts Institute of Technology, Boston, recently announced that summer courses in public health and biology will be given from July 6 until August 17. The courses include (1) general bacteriology, (2) methods of teaching general biology, (3) public health laboratory methods, (4) health education methods, and (5) health records and statistical procedure.

Investigation of Workmen's Compensation Act.—The governor has signed a resolution for the appointment of a special commission to investigate the operation of the workmen's compensation law. There will be five citizens of the state on the commission, all unpaid, who will determine the effect of the present law, and what changes, if any, seem necessary. The commission is authorized to expend not more than $2,500 for assistants, and will report not later than December 1.

Summer Clinical Courses at Harvard.—In addition to the laboratory courses mentioned in THE JOURNAL, May 15, Harvard Medical School, Boston, offers to graduates clinical courses in such subjects as surgery, anesthesia, obstetrics and gynecology, dermatology, diseases of the nervous system, pediatrics, and various other specialties. Information concerning these courses may be obtained from Dr. Samuel R. Meaker, secretary of graduate courses at the medical school, 240 Longwood Avenue, Boston.

Physicians' Home Benefit Concert.—An operatic concert was given at the Boston Opera House, Boston, May 24, for the benefit of the Physicians' Home, Inc., and to aid in the purchase of the estate of the late Col. Edward N. Knox, known as Downsbury Manor, in Connecticut. The artists were Frances Alda, Dorothea Flexer, Giovanni Martinelli, Giovanni Martino and Albert Spalding. Allan Forbes, 120 Boylston Street, Boston, is treasurer for Massachusetts in the campaign to raise funds for the Physicians' Home.

Society News.—Dr. Philemon E. Truesdale addressed the North Bristol District Medical Society recently on "Peptic Ulcer," illustrated by lantern slides.——The next meeting of the New England Surgical Society will be in Boston about October 1.—Dr. Joseph J. Skirball, Boston, addressed the North Shore Medical Fraternity, Lynn, May 20, on "Some Common Eye Conditions as Seen by the General Practitioner," illustrated with lantern slides, and Dr. William D. McFee, Haverhill, April 20, on "Uses of Physiotherapy in General Practice."

MISSISSIPPI

Personal.—Dr. Solomon R. Boykin, Mize, has been appointed superintendent of the State Charity Hospital at Jackson.——The residence of Dr. William H. Aikman, health officer of Natchez and Adams County, was destroyed by fire, recently.

State Medical Election.—At the annual meeting of the Mississippi State Medical Association, Jackson, May 11-13, Dr. Theophilus E. Ross, Sr., Hattiesburg was elected president; and Drs. Roland W. Hall, Jackson, Ellis L. Wilkins, Clarksdale, and Charles E. Catchings, Jr., Woodville, vice presidents. Dr. Thomas M. Dye is the secretary; the next meeting will be held at Vicksburg. The contract with the *New Orleans Medical and Surgical Journal* was renewed for two years. Mrs. William H. Frizell, Brookhaven, was elected president-elect of the Women's Auxiliary.

MISSOURI

Personal.—Dr. H. L. Mantz, Kansas City, has been appointed superintendent of the Leeds Tuberculosis Sanatorium, which is a branch of the health department of Kansas City.——Dr. Charles H. Wallace, St. Joseph, has filed as a candidate for state representative from Buchanan County.——Dr. Cecil L. Wayman was appointed tuberculosis controller of St. Louis, April 1, to succeed Dr. Hyman I. Spector; Dr. Wayman was formerly with the U. S. Veterans' Bureau at St. Louis.——Dr. Richard L. Sutton, Kansas City, received the honorary degree of doctor of science from Washburn College, Topeka, Kan., June 2.

Hospital News.—The Christian Church Hospital, Kansas City, has been leased to the U. S. Veterans' Bureau; June 30, the Veterans' Bureau will vacate the Wesley Hospital, which was formerly operated by Dr. James A. Robertson, who announces that he will reopen the Wesley Hospital about August 1, and that Dr. Rush E. Castelaw, formerly superintendent, will return from Williamsport, Pa., and again assume the superintendency of Wesley Hospital.——Dr. Porter E. Williams has taken up the duties of superintendent of the Kansas City General Hospital; Dr. George C. Lee is the assistant superintendent.

Clinic for Crippled Children.—A clinic for crippled children was held at New Madrid, recently, under the auspices of the New Madrid County Health Unit. About twenty physicians volunteered their services; the railroads furnished free transportation and hospitals in St. Louis free beds during convalescence from operations to correct the deformities. Twenty crippled children will be sent to hospitals. Following the crippled children's clinic there was an eye clinic and a tonsil and adenoid clinic. This work is all free for those who are unable to pay, and such clinics have been held at least once a year since the county health unit was organized in 1922.

Society News.—Dr. Hugh H. Young, clinical professor of urology, Johns Hopkins University Medical School, addressed the Jackson County Medical Society, Kansas City, recently.——Dr. B. Brouwer, professor of neurology, University of Amsterdam, Holland, addressed the St. Louis Medical Society, May 11, on "The Pathology of Sensibility."——Mrs. J. F. Shoemaker, wife of a member of the St. Louis Medical Society, has donated $5,000 toward the completion of the new auditorium. The society held its final meeting in the old building at 3525 Pine Street, June 1; Dr. Alonzo R. Kieffer spoke on the details of the construction of the auditorium. There was also a moving picture program.——Dr. Jabez N. Jackson, President-Elect of the American Medical Association, and Mrs. Jackson were guests of honor, May 8, at a reception given by the Jackson County Medical Society and the Women's Auxiliary at the residence of Dr. and Mrs. George Wilse Robinson, Kansas City.

School to Develop Speakers.—There will be a Kansas City Public Health Institute, under the auspices of the Health Conservation Association, beginning about the middle of June, the purpose of which will be to develop public speakers for public health and allied subjects. Those who complete this course satisfactorily will comprise the Speakers' Bureau of the Health Conservation Association and probably of the Jackson County Medical Society. There will be at least ten sessions covering various phases of hygiene and preventive medicine; the visiting speakers will include, among others, Drs. John M. Dodson and Herman N. Bundesen, both of Chicago; Dr. Charles P. Emerson, Indiana University School of Medicine, Indianapolis; Dr. Iago Galdston, New York, and Dr. Mazyck P. Ravenel, of the University of Missouri

School of Medicine. The number of matriculates for the institute is limited to fifty; certificates will be awarded those who pass an examination when the course is finished. Applications should be sent to Mrs. Ettella L. Kelly, executive secretary, 420 Hall Building, Kansas City.

NEW MEXICO

State Medical Election.—At the annual meeting of the New Mexico Medical Society, May 19-21, Dr. Charles F. Beeson, Roswell, was elected president; Dr. Cary B. Elliott, Raton, president elect; Dr. Dwight Allison, Las Cruces, vice president, and Dr. Charles M. Yater, Roswell, secretary-treasurer; the next annual meeting will be at Carlsbad.

NEW YORK

Report of Gun-Shot Wounds.—The governor has signed a bill requiring physicians to report to the police, immediately, cases of gun-shot wounds, and making the failure to make a report a misdemeanor.

Dr. Brown Resigns.—Dr. William P. Brown, medical director, Rocky Crest Sanatorium, and assistant director, Bureau of Tuberculosis, Cattaraugus County Board of Health, resigned, effective, June 1, and accepted the medical secretaryship of the Pennsylvania State Tuberculosis Society.

Hospital Resignations.—Fourteen physicians on the staff of the Oswego Hospital were reported to have resigned, May 15, in protest at the refusal of the trustees to reinstate two members of the staff who had been suspended for criticizing the hospital management, it is reported, in public addresses.

Veteran Physicians Honored.—The Ulster County Medical Society, Kingston, gave a testimonial dinner, June 3, to the physicians in the county who have practiced medicine at least fifty years. The guests of honor were Drs. James R. Nelson, Abraham P. Chalker, Henry Van Hoevenberg, Elbert H. Loughran and George C. Basten, all of Kingston, and Dr. Benjamin F. Neal, Ellenville, and Dr. Rufus Crawford, Saugerties. These veterans, all near 80 years of age, recalled before the society the pleasures and difficulties of medical practice fifty years ago, and the advances made in medical practice in that time. Dr. Loughran was toastmaster. The president of the society is Dr. Mary Gage Day.

Opposition to Treatment by a Corporation.—The Medical Society of the County of New York unanimously adopted the following resolution, May 24:

WHEREAS, It has come to the attention of this society that the New York Tuberculosis Association, Inc., as an inducement to obtain additional members therein, has made the following representations to the public, to wit:

"The New York Tuberculosis and Health Association, Inc., offers free information and advice on all health problems and expert chest examination with x-ray facilities at cost to employees of offices, stores and factories—Arrangements made for placement in suitable institutions when necessary"; and

WHEREAS, It is understood that Mr. Harry O. Hopkins, director of the association, has stated that the price of the expert chest examination with x-ray facilities is to be $15; and

WHEREAS, A corporation is expressly forbidden to practice medicine by the laws of the state of New York; and

WHEREAS, Said representation made to the public leaves the cost of such proposed treatment vague and uncertain, although known to the association; and

WHEREAS, Such treatment, stated to be at cost, is to be given to a group of employees, irrespective of their ability to pay therefor, many of whom can readily afford to obtain such advice and treatment from their family physicians; and

WHEREAS, No provision is contained in such proposal to limit such treatment and advice to those persons referred to the association by practicing physicians; and

WHEREAS, In the opinion of this society, such proposal, if carried out as made, would not be to the best interests of the profession or of the public; now, therefore, be it

Resolved, That the Medical Society of the County of New York is opposed to and protests against the carrying out of such proposal as made by the New York Tuberculosis and Health Association, Inc.

New York City

University News.—The Long Island College Hospital granted the degree of doctor of medicine to ninety graduates at the commencement exercises at the Academy of Music, June 3; this is said to be the largest class graduated since the school was founded, sixty-seven years ago.

Dentist Fined for Practicing Medicine.—Bertram Ball, D.D.S., was fined $500, June 4, according to the New York *Times*, for practicing medicine illegally. Dr. Ball's attorney announced that the case would be taken to the U. S. Supreme Court, if necessary, to test the constitutionality of the state law. Dr. Ball is said to have prescribed medicine for the kidneys of a patient he treated for pyorrhea.

Dinner to Sir Arthur Newsholme.—The board of council of the Milbank Memorial Fund tendered a dinner at the Hotel Biltmore in honor of Sir Arthur Newsholme of London, previous to his sailing for home, recently; among the guests present were Dr. William H. Welch, Baltimore; Dr. Hugh S. Cumming, Washington, D. C.; Dr. Livingston Farrand; Dr. Matthias Nicholl, Jr.; Dr. Louis I. Harris; Dr. Linsly R. Williams; Cornelius N. Bliss, Jr., A.B.; Edward M. Sheldon and Albert G. Milbank.

Free Cancer Clinics.—Commissioner of Welfare Bird S. Coler announced, May 12, that the city's free service for the treatment of cancer under the New York Cancer Institute will be extended to the East Harlem Health Center, 345 East One Hundred and Sixteenth Street, the New York Dispensary, 34 Spring Street, and the Bowling Green Neighborhood Association, 105 Washington Street, and that at each place medical and nursing attendance will be provided. Mr. Coler is reported to have said that New York is the only city in the world giving radium, roentgen-ray and electrotherapeutic treatments free of cost.

Personal.—Dr. George J. Doyle has been appointed chief medical examiner for the Municipal Civil Service Commission to succeed the late Dr. Joseph A. Kene.——Attorney William B. Groat, Hollis, has been appointed, by the attorney general of the state, deputy state attorney general in charge of the prosecution of illegal practitioners under the new medical practice act recently signed by the governor.—Dr. Nathan E. Broder has been appointed associate obstetrician to the People's Hospital.——The Surgeon General, U. S. Army, has recommended to the war department that Dr. Haven Emerson, colonel medical reserve corps, among others, be assigned to active duty for fifteen days from June 16, and directed to proceed to Carlisle Barracks, Pa., for training; Dr. William J. Francis, major, M. O. R C., was ordered to active duty for forty-five days' training at Mitchel Field, L. I., effective, May 1.——Dr. Antonio Fanoni has been decorated by the king of Italy knight commander of the Order of the Crown of Italy for his work for the Italian Hospital in New York and for benefactions to his native town, Settefrati, Italy.

NORTH DAKOTA

State Medical Election.—At the thirty-ninth annual meeting of the North Dakota State Medical Association, Minot, May 25-26, Dr. N. Oliver Ramstad, Bismarck, was elected president; Dr. Thomas Mulligan, Grand Forks, president-elect; Drs. William F. Sihler, Devils Lake, and John Crawford, New Rockford, vice presidents; Dr. Alexander J. McCannel, Minot, secretary, and Dr. William W. Wood, Jamestown, treasurer. The names of Drs. Henry H. Healy, Grand Forks, Henry M. Waldren, Drayton, and Murdock MacGregor, Fargo, were recommended to the governor for reappointment on the state board of medical examiners. The next meeting of the state medical association will be in Grand Forks in May, 1927.

OHIO

Hospital News.—The Flower Hospital, Toledo, will occupy its new ninety bed addition within the next few days; this will make the capacity of the hospital 150 beds.——The Longview Hospital and Hamilton County Infirmary, Cincinnati, which were recently purchased by the state, will be merged and known as the Longview State Hospital.——Dr. Wilbur M. Warner has been elected president of the staff of Middletown Hospital, Middletown, to succeed Dr. John C. Stratton.

Medals for Golf Champions.—At the sixth annual tournament of the Ohio State Medical Golfers' Association, Toledo, May 10, gold medals were presented to winners of championships for the last six years; the champion heretofore was awarded the Championship Cup, temporarily. Medals were thus presented to Dr. William D. Inglis, Columbus, winner in 1921; Dr. Earl E. Gaver, winner in 1922 and 1923; Dr. William H. Fisher, Toledo, 1924; Dr. Ralph R. Wilkinson, Cincinnati, 1925, and Dr. Thomas F. Heatley, Toledo, 1926. At the golfers' banquet following the tournament, Dr. E. Otis Smith, Cincinnati, was elected president of the association for 1927.

The Automobile a Major Health Problem.—In his annual report, the commissioner of health of Cleveland credits automobile traffic in that city as the cause of 226 deaths and 4,520 nonfatal injuries in 1925. The increase in automobile traffic, he says, is one of the most important causes of the increase in the number of cripples in the community; it was of far more importance than infantile paralysis, which caused twenty deaths in eighty-eight cases, and of far more impor-

tance, also, as a health problem than diphtheria, which caused 138 deaths in 1,746 cases. In a list of fourteen communicable diseases with the number of deaths that occurred from each, only one disease caused more deaths in Cleveland last year than did the automobile, and that was pneumonia.

OKLAHOMA

Increase of Rabies.—The state department of health, in a recent bulletin, notes that the state laboratory examined the heads of 264 dogs from January 1 to May 21, and that seventy-one were positive for rabies; also that 256 Pasteur treatments had been sent out by the laboratory since January 1. There were fourteen deaths from rabies in Oklahoma in 1925. It is necessary now, that indigent persons may receive Pasteur treatment free and without delay, for the commissioners of each county to designate some physician, druggist or health officer as agent who shall be authorized to purchase the treatment from the state laboratory, to be reimbursed by the county; formerly treatment was furnished free to all indigent persons.

PENNSYLVANIA

Personal.—Dr. John W. Shirer won the prize offered by the Allegheny County Medical Society for the best case report submitted by an intern in any hospital in Allegheny County (THE JOURNAL, February 20).——Dr. Amos M. Pierce, West Elizabeth, was recently given an ovation by the Valley Medical Society on the completion of his fiftieth year in the practice of medicine.——Dr. John E. Barsby, Chester, has been engaged by the Delaware County Tuberculosis Association to take charge of the regional clinic service and industrial health service.

Fifth Councilor District Meeting.—A scientific and social meeting of physicians of the Fifth Councilor District of the Medical Society of the State of Pennsylvania will be held June 16, 10:30 a. m., at the Huntingdon Country Club, Huntingdon, to which all reputable physicians are invited. There will be a dinner following the scientific program ($2 per plate). Dr. Harold A. Miller, professor of obstetrics, University of Pittsburgh School of Medicine, and Dr. W. Wayne Babcock, professor of surgery and clinical surgery, Temple University School of Medicine, Philadelphia, will speak on scientific subjects, and among the other guests will be the president, president-elect, and secretary of the state medical society.

Hospital News.—The last sale of Christmas seals in Pennsylvania totaled a little over $500,000; every Pennsylvania tuberculosis organization retains at least 80 per cent of Christmas seal funds, the rest going to the state and national tuberculosis work.——The court of Northampton County handed down the decision, April 5, that the County Tuberculosis Hospital Act of 1925 was constitutional and that the election of Nov. 6, 1923, providing for a bond issue of $200,000 for a tuberculosis hospital in that county, was valid.——McKean County has planned to hold an election in the fall for establishing a tuberculosis sanatorium under the Tuberculosis Hospital Act of 1925.——More than 600 residents of Roxborough and Manayunk attended a dinner, June 2, to open a campaign to raise $250,000 to enlarge the Memorial Hospital, Roxborough (Philadelphia).

Camp of Instruction.—The state department of health will hold its seventh annual camp of instruction, June 21-23, at the Mont Alto Sanatorium. The meeting will be limited largely to the staff of the department and physicians connected with the state tuberculosis clinics, and to a number of representatives from cooperating agencies. The camp will specialize on tuberculosis, emphasing heliotherapy, the advantages of rest, pneumothorax, special nutrition classes and treatment in the home of patients. The speakers will include Drs. Henry R. M. Landis and Eugene Opie of the Henry Phipps Institute; Dr. Stephen A. Douglass of the Milbank Demonstration in Cattaraugus County, N. Y.; Dr. Nathan Barlow, U. S. Veterans' Bureau; Dr. Ward Brinton, director of the tuberculosis division of the Philadelphia Department of Health, and others.

Philadelphia

Society News.—Drs. Reginald Fitz and Frederick M. Allen, Morristown, N. J., addressed the Philadelphia County Medical Society, June 9, on "The Management of the Patient with Chronic Nephritis" and "Renal Vascular Disease: Some Clinical and Experimental Observations," respectively.

Hospital Anniversary.—Dr. Thomas W. Salmon, professor of psychiatry, Columbia University College of Physicians and Surgeons, New York, delivered the address at the one hundred and seventy-fifth anniversary of the Pennsylvania Hospital, May 26; the hospital was incorporated, May 11, 1751, and the first patients admitted, Feb. 10, 1752, one of whom was a mental patient (THE JOURNAL, April 10, 1926, p. 1140).

Diphtheria Prevention in Schools.—The board of education, which has started a campaign to immunize pupils in the city schools against diphtheria, expects to complete the work in the West Philadelphia schools and in the schools east of Broad Street and south of Market Street before the present term ends; the campaign will start in the remaining schools at the beginning of the fall term. Dr. Wilmer Krusen, city health commissioner, will supervise the work. Each pupil will be given a coupon to be signed by his parents and presented to the physicians of the board of education at the school before the toxin-antitoxin is administered.

Jefferson Medical College Commencement.—The one hundred and first annual commencement of Jefferson Medical College was held, June 4, in the Academy of Music; the degree of doctor of medicine was conferred on 144 graduates. The honorary degree of doctor of literature was conferred on Dr. Harvey Cushing, professor of surgery, Harvard University, Boston, the principal speaker. Commissions as first lieutenant in the Medical Officers' Reserve Corps, U. S. Army, were presented to forty-nine members of the graduation class. This was the fourth group of Jefferson students to receive commissions in the reserve corps after having completed a course in military training.

UTAH

State Medical Election.—At the annual meeting of the Utah State Medical Association, Salt Lake City, May 8, Dr. William R. Calderwood, Salt Lake City, was elected president; Dr. Eugene H. Smith, Ogden, president-elect; Drs. Edward M. Conroy, Ogden, Frank F. Fiske, Price, and Richard A. Pearse, Brigham City, vice presidents; Dr. Frank B. Steele, Salt Lake City, secretary, and Dr. Edward D. Le Compte, Salt Lake City, treasurer.

CANADA

Trudeau-Laennec Meeting.—The Trudeau Society of Michigan and the Laennec Society of Ontario, Canada, held a joint meeting, May 25, at the Queen Alexander Sanatorium, London, Ontario. Dr. Jabez H. Elliott, Toronto, discussed "Recent Books on Tuberculosis and Pulmonary Disease"; Dr. Bruce C. M. Whyte, Battle Creek, Mich., "Bronchiectasis with Reference to Lipiodol Injections," and Dr. Plinn F. Morse, Detroit, "Clinical and Pathologic Findings in Chronic Pneumonitis."

Society News.—The North Pacific Pediatric Society will hold its summer meeting at the Empress Hotel, Vancouver, B. C., June 22; Dr. Willis S. Lemon, Rochester, Minn., will speak on "Bronchiectasis in Childhood"; Dr. J. G. Fitzgerald, University of Toronto Faculty of Medicine, "Diphtheria Toxoid (Anatoxin) as an Immunizing Agent Against Diphtheria"; Dr. Robert H. L. O'Callaghan, Calgary, Alta., "Pneumococcus Peritonitis," and Drs. Harry A. Rawlings and Alfred Howard Spohn, Vancouver, on "Diagnosis and Treatment of Enlarged Thymus."——Dr. Walter Ross Lane, Nanaimo, has been elected president of the No. 6 District Medical Society, and Dr. Thomas L. Butters, Courtenay, vice president; Dr. William D. Keith, Vancouver, addressed the annual meeting of the society recently on "Clinical Problems of Treatment of Goiter."

Canadian Medical Association Meeting.—The fifty-seventh annual meeting of this association will be at Victoria, B. C., June 21-25, with headquarters at the Empress Hotel. The council will meet throughout Monday and Tuesday, and the official opening of the meeting will be Wednesday, when there will be among other scientific discussions a symposium on "Duodenal Ulcer" by Dr. Herbert C. Moffitt, San Francisco, and Drs. William H. Dickson and Frederick N. G. Starr, Toronto, and an address by Dr. Leonard G. Rowntree, Rochester, Minn., on "Progress in Our Knowledge of Kidney and Liver Function in Relation to Disease." Dr. Maude E. S. Abbott, Montreal, will give a lantern slide exhibit, Thursday, on "The Sir William Osler Memorial Volume and Its Classified and Annotated Bibliographies," and, among others, Dr. John F. Barnhill, Indianapolis, will discuss "Some General Diseases Which Have Origin in Infections of the Head." Dr. Frederick G. Banting, Toronto, will discuss "Medical Research," Friday, when there will also be a symposium on goiter by Drs. William D. Keith, Vancouver, Alvah H. Gordon, Montreal, Gordon S. Fahrni, Winnipeg, and W.

Herbert McGuffin, Calgary. There will be extensive entertainment: receptions, luncheons, drives, golf, visits and garden parties, some arranged especially for the women, to assist whom a committee of women will be in attendance daily at headquarters.

GENERAL

New Hospital Headquarters.—The American Hospital Association will move into its new headquarters, 18-22 East Division Street, Chicago, July 1.

Fellowships in Medicine.—In order to receive consideration at the September meeting of the Medical Research Board of the National Research Council, applications for fellowships in medicine should be filed not later than August 1, with the Chairman, Medical Fellowship Board, National Research Council, Washington, D. C.

Accidents at Coal Mines in April.—The bureau of mines reports that 130 men were killed in accidents at coal mines in the United States in April, 101 of whom were killed in bituminous mines and twenty-nine in anthracite mines. The death rate per million tons of coal mined was 2.69, as compared with 3.90 for April, 1925. In the first four months of 1926 there were 814 men killed in the coal mining industry in the United States. There were no major disasters in April, but there were seven in the preceding months of this year, all of which were caused by explosions.

Increase in Rural Health Service.—There were, at the beginning of this year, 307 counties or districts in the United States with local health service under whole-time local health officers; of these 280, or 91 per cent, according to the U. S. Public Health Service, were receiving financial assistance from one or more of the following agencies: the state board of health, the U. S. Public Health Service, the International Health Board, and the Children's Bureau of the U. S. Department of Labor. This number represents a net gain of twenty-seven counties in the year 1925 over the number that had local health service in 1924.

American Academy of Ophthalmology and Oto-Laryngology.—The thirty-first annual meeting of the academy will be at Colorado Springs, Colo., September 13-18, with headquarters at the Antlers Hotel. Mr. Basil Graves, London, England, the guest of honor, will give an address on some phase of slit lamp work. The American Board of Ophthalmic Examinations and the American Board in Oto-Laryngology will probably hold their examinations in Denver, September 13; the Section on Instruction will begin its sessions, September 17, and continue until the 18th. There will be a one-day golf tournament, September 13, for which arrangements can be made by addressing Dr. Frank L. Dennis, 301 Ferguson Building, Colorado Springs.

Decrease in Birth Rates.—Birth rates in 1925 were lower than in 1924 in twenty-six of the thirty states for which figures have been compiled by the bureau of the census, the department of commerce has announced. North Carolina, with a birth rate of 22.8 per thousand of population, shows the highest 1925 birth rate, and Montana, with 15.1 per thousand, shows the lowest. Death rates for 1925 were higher than for 1924 in sixteen of the thirty states shown for both years. The highest 1925 death rate, 14.6 per thousand, is shown for Vermont, and the lowest, 7.7, for Montana and North Dakota. Infant mortality rates for 1925 were generally higher than those for 1924, as nineteen of the thirty states show higher rates in 1925. The highest 1925 infant mortality rate, 90.4, appears for Maryland, and the lowest, 51.2, for Oregon.

International Meeting of Balneologists.—The eighth International Medical Postgraduate Course with special reference to balneology and balneotherapy will be held at Carlsbad, September 12-18. Clinicians and scientists from the medical faculties of Austria, Bulgaria, Czechoslovakia, Denmark, England, Germany, Italy, Norway, Sweden, Switzerland and Turkey will give addresses. The United States will be represented by Dr. Lewellys F. Barker, emeritus professor of medicine, Johns Hopkins University Medical Department, Baltimore. An invitation is extended to all physicians; those who accept will receive a passport visé without charge and a 33 per cent reduction on all state railways in Czechoslovakia. A program of entertainment has been arranged. Programs will be sent on application to Dr. Edgar Ganz, secretary of the Medical Postgraduate course in Carlsbad, Czechoslovakia.

Foot-and-Mouth Disease Eradicated from the United States.—The Department of Agriculture revoked, June 10, all domestic quarantine regulations previously imposed because of foot-and-mouth disease in live stock. Just a year has elapsed since the disease was last found in California; in the meantime there has been no recurrence of the infection there. Texas, where foot-and-mouth disease reappeared in 1925, was officially freed from all quarantine, April 1, 1926. Bureau of Animal Industry order 297, effective, June 10, officially declares that foot-and-mouth disease has been eradicated from the United States. There still remain in effect, however, the usual restrictions, which are rigidly enforced, that protect the United States from foot-and-mouth disease and other live stock plagues in foreign countries. As the result of discovering the disease in hog carcasses from the Netherlands intended for consumption in Great Britain, the British ministry of agriculture and fisheries has prohibited the landing in Great Britain of all carcasses from continental Europe. This is the first time the British government has prohibited the importation of fresh meat on account of foot-and-mouth disease, although for years it has enforced quarantine against live animals from countries in which the disease was present.

Society News.—Dr. Harvey Cushing, Harvard University Medical School, Boston, was elected president of the American Surgical Association, at the annual meeting, Detroit, May 26; Drs. Alexander Primrose, Toronto, and Arthur A. Law, Minneapolis, vice presidents; Dr. Robert B. Greenough, Boston, secretary, and Dr. Eugene H. Pool, New York, treasurer. The next annual meeting will be at Richmond, Va.——Lee K. Frankel, Ph.D., New York, was elected chairman of the National Health Council at the American Health Congress, Atlantic City, May 22; Dr. William F. Snow, New York, vice chairman; Dr. Linsly R. Williams, New York, treasurer; Dr. Ellice M. Alger, New York, recording secretary, and Dr. Thomas C. Edwards, New York, acting executive officer.——The Mid-Western Association of Anesthetists will hold its annual meeting, October 11-14, at Kansas City, Mo.; physicians or dentists desiring to present a paper at this meeting should communicate with the secretary, Dr. Ralph M. Waters, 425 Argyle Building, Kansas City, Mo.——The Mississippi Valley Sanatorium Association will hold its annual meeting in conjunction with the Mississippi Valley Conference on Tuberculosis at Chicago, June 15, at the John B. Murphy Memorial Building, 40 East Erie Street; at 12:30 there will be a luncheon at the Hotel Sherman given by the president, Anton J. Cermak, of the board of county commissioners——Dr. George M. MacKee was elected president of the American Dermatological Association at the meeting in Philadelphia, May 27-29; Dr. Otto H. Foerster, Milwaukee, vice president, and Dr. Clarence Guy Lane, 416 Marlboro Street, Boston 17, Mass., secretary-treasurer.

FOREIGN

Typhus at Medical College.—Six members of the staff of the Peking Union Medical College, Peking, China, had typhus fever or were convalescing, according to a newspaper report, May 29, contracted while caring for the Mukden troops outside the walls of the city. The epidemic of typhus in Peking, which resulted in 1,000 cases among civilians this year, has passed its peak.

Prizes for Research on Venereal Disease.—The French Ligue contre le péril vénérien offers a prize of 5,000 francs for the best work presented on heredosyphilitic psychopathies in children and adolescents, and their share in juvenile delinquencies. A similar prize will be given for the best work on the association of syphilis and tuberculosis in bone and joint disease. A further prize of 20,000 francs will be awarded to the one making the most important discovery in the field of venerology during 1926 and 1927. The headquarters of the league are at rue de Lisbonne 44, Paris. The competing works must be received before Oct. 1, 1928.

Cultist Sentenced for Involuntary Homicide.—The *Deutsche medizinische Wochenschrift* gives the details of the case already mentioned in THE JOURNAL in which the Lübeck courts condemned a Christian science practitioner to six months' imprisonment for manslaughter from neglect of due caution (*fahrlässige Tötung*). She had acceded to the request of the parents and proceeded to treat with prayer alone a boy, aged 14, who had fallen on a picket, which entered the abdomen. The supreme court in a decree, dated Oct. 5, 1925, confirmed the sentence, specifying that the cultist should have refused to take charge of the case and should have advised the family to call in a physician.

International Commission on Rheumatism.——The *Nederlandsch Tijdschrift voor Geneeskunde* relates that twelve

countries sent representatives to the convention organized to discuss better methods for prevention and treatment of rheumatism, which was held recently at Prague. It was decided to found a central bureau, with headquarters in the Netherlands; Dr. J. van Breemen, Amsterdam, will probably be in charge. The important social-economic aspect of rheumatism is being studied with special interest now in England, Czechoslovakia, Austria and elsewhere, national committees having been organized for the purpose in ten countries.

Public Health in Jugoslavia.—From a letter in the *Deutsche medizinische Wochenschrift* we note that Jugoslavia in the last five years has founded 23 institutes for hygiene, 9 for epidemiology, 19 for bacteriology, 3 malaria stations with 42 branches, 50 venereal disease policlinics, 34 tuberculosis stations, 18 for trachoma, and other institutions, to a total of 250. In four years 22,480 persons were given preventive treatment for rabies. The Rockefeller Foundation donated twenty millions to the work, and the Health Commission of the League of Nations aided in the fight against malaria, which presents special problems owing to the peculiar conditions of the water supply. In 1924, 220,561 persons were examined for malaria, and 2,100 Kg. of quinine was distributed, colored to prevent resale. The progress of hygiene is handicapped by the lack of manuals in the language of the country, and reliance has to be mainly on moving pictures in education of the public.

Personal.—Dr. C. Richet, professor emeritus of physiology at the University of Paris, a pioneer in biology with anaphylaxis and serotherapy, was presented, May 22, with a bronze portrait bust and tributes from delegates of scientific societies throughout Europe. Belgium sent the insignia of the grand commander of the Order of Leopold, and General Foch presented him with the cross of the grand commander of the Legion of Honor.——Prof. R. Bastianelli was in charge of the reception tendered the Interstate Postgraduate Clinical Assembly of North American Physicians at the capitol at Rome.——Dr. Monod, Vichy, and Dr. Fox, London, presided at the International Congress on Medical Hydrology, held recently at Carlsbad.——Honorary citizenship was conferred on Prof. S. Freud by the city of Vienna on his seventieth birthday, May 6.——Dr. L. Bernard and ten other members of the Académie de médecine at Paris have been appointed a committee to organize a laboratory for the purpose of supervising the drugs obtainable by the public dispensaries and practitioners for the treatment of syphilis.——Prof. E. Kraepelin, Munich, has been awarded a fund for a five months' study in India of paralysis.——The triennial Manson medal has been conferred by the London Tropical Medicine Society on Prof. E. Marchiafava, Rome, for his works on malariology.——The seventieth birthday of Dr. Adolpho Lutz was celebrated recently in Brazil, as the pioneer of experimental medicine, parasitology and biology. He is still actively at work in the Instituto Oswaldo Cruz, where he has made many discoveries.——The Hungarian Academy of Science has given the academy prize this year to Dr. E. Krompecher, professor of pathology, University of Budapest, for his work on cancer.——The Académie des sciences morales at Paris has conferred the Audiffred prize on Dr. M. Ménard, radiologist of the Cochin hospital, crippled by injuries from the roentgen rays.

Deaths in Other Countries

Dr. **M. Pellissier**, Lille, professor of pathology, author of various medicolegal tests, aged 40.——Dr. **A. Barlocco**, Modena, professor of clinical medicine.——Dr. **C. Sforza**, Florence, formerly general medical inspector of the Italian army medical department, director of the *Giornale di Medicina Militare*, aged 78.——Dr. **E. Landolt**, Paris, whose works in all fields of ophthalmology are internationally known, one of the three founders of the *Archives d'ophtalmologie* in 1881, aged 79.——**Sir William Boog Leishman**, director-general, British Army Medical Service; honorary physician to the king; formerly president, Society of Tropical Medicine and Hygiene; for ten years member of the Medical Research Council; chairman, Foot and Mouth Disease Research Committee; late examiner in pathology at Oxford University and in tropical medicine at the University of Cambridge, June 2, following a short illness.——**William Frederick Shanks**, professor of physiology, University of Leeds, England, April 15, aged 38.——Prof. **F. v. Soxhlet**, emeritus professor of agricultural chemistry at Munich, inventor of an apparatus for sterilizing milk which bears his name, aged 79.——Major Le Goff, of the French medical corps, killed in an airplane accident while taking wounded to the hospital in Morocco.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 29, 1926.

The Congress of Institute of Public Health

This year's congress of the Royal Institute of Public Health is to be held at Bristol, from May 19 to 24, inclusive. Tuberculosis and cancer problems are among the topics that will engage the attention of the Section of State Medicine and Municipal Hygiene. The Duchess of Hamilton is to open a discussion on "Humane Slaughtering." A contribution of general interest should be that on "How to Get a Smokeless Atmosphere—and Make It Pay," by Councilor W. Brownhill Smith, chairman of the Glasgow Health Committee. The discussion in the Section of Naval, Military, Air and Tropical Diseases of Health Questions, having special reference to the services, is to be supplemented by several papers of great general importance; for instance, that on "The Relative Connection Between Chemical Warfare, Physics, Chemistry, Meteorology and Public Health," by Major H. S. Blackmore. Many phases of health in reference to the factory and workshop are to be debated before the Section of Industrial Hygiene. "Vocational Selection" is the subject of three of the contributions. The president of the Section of Pathology, Bacteriology and Biochemistry is Dr. J. C. Adami. He will open a discussion on cancer in a session jointly with the Section of State Medicine and Municipal Hygiene. The Section of Women and the Public Health is to be presided over by the Duchess of Beaufort. Papers and debates on various subjects related to the welfare of children and of women engaged in industry will figure in this department. "The Psychology of Women Workers" is to be dealt with by Miss May Smith and Miss Sheila Barington.

The Nervous System of Plants

Sir Jagadish Chandra Bose, F.R.S., the Indian biologist, lecturing at University College, controverted the views of Pfeffer and others that a hydromechanical disturbance or the secretion of an irritant by a wound is necessary for excitation in plants. He said that an excitatory impulse was generated in the plant by a feeble stimulus which caused no wound or any physical disturbance. He found that *Mimosa pudica* could be excited by an electric shock one tenth of the intensity that evoked human sensation. By such a feeble stimulus, which caused no wound and no mechanical disturbance, the plant could be uniformly excited time after time, and the velocity of its nervous impulse determined under normal or changed external conditions. The impulse was transmitted not only upward but also downward against the direction of the movement of sap. Cold applied on the path of conduction slowed down and arrested the impulse; narcotics produced a temporary stoppage, and poisons permanently abolished it. He had been able to produce an artificial paralysis in the plant nerve, which was cured by applying the same treatment found effective in the removal of paralysis in the animal. Bose gave demonstrations by means of his "resonant recorder," whereby the plant automatically inscribes the speed of its nervous impulse. He had found the perception or latent period of the motor organ of *Mimosa* to be six one-hundredths second. Fatigue prolonged the latent period; when excessively tired, the plant lost its power of perception, which was regained only after half an hour's absolute rest. In stout specimens the speed of reaction was sluggish, whereas a very thin specimen attained its acme of excitation in a very short time. A plant protected under glass from the stimulating buffets of the elements looked sleek and

flourishing, yet in reality it was flabby, its nervous power remaining undeveloped. But when a succession of blows fell on this effete specimen, the shock created nervous paths and wakened it up into activity. Bose had been able to localize the plant nerve by two independent methods: first, by the electric probe; and, secondly, by selective staining. He had discovered a highly active and rapidly oxidizable substance in the quickly contractile pulvinus of *Mimosa*, whereas it was absent in the inactive and insensitive pulvinus of the ordinary bean plant. In the leaf stalk of *Mimosa*, four nerves led from the four subpetioles to the four quadrants of the pulvinus, each of which had a distinct motor function. If one of the four subpetioles was stimulated, a definite impulse was sent along the particular nerve to stimulate its own quadrant. But energy was conserved at the center, and the outlying organs were quickly adjusted to meet any crisis. But one advantage secured by such a highly elaborated nervous system was the coordinated reflex by which the leaf surface was adjusted perpendicularly to the incident light, so as to insure the largest amount of radiant energy for photosynthesis. Another important function was the transmission of a rapid message to the motor organ for quick reaction in avoiding threatened danger. Large patches of ground in the tropics are covered by *Mimosa*. When one of the vivid green leaves is trampled on or bitten by grazing cattle, a nervous impulse is sent through the plant, the leaves fall and press themselves against the ground, and the leaflets also close. A patch of vivid green is rapidly transformed into thin lines of dull gray unnoticed against the dark ground. The plant thus saves itself literally by "lying low" and making itself invisible.

Birth Control Discussed in the House of Lords

In the house of lords, Lord Buckmaster moved that the government be requested to withdraw all conditions imposed on welfare committees for the purpose of causing the withholding from married women of information when sought as to the best means of limiting their families. The control of birth was, he said, being extensively practiced by the well-to-do, and it was only among the poorest and the most ignorant that this knowledge had not permeated. In 1,000 married people under the age of 50, the birth rate for schoolmasters was 93; for clergymen of the Church of England, 100; for clergy of all denominations, about 102; for physicians and professional men, from 103 to 105; for skilled laborers, 153, and for unskilled laborers, 247. The standard of intelligence measured in the same way by examination of the children in the schools showed a decreasing scale of intelligence, which was in the exact inverse ratio to this standard of birth rate. The ministry of health provided money to assist welfare centers set up by local authorities, and to enable help and advice to be given to women expecting children, and to women who had young children. But an express prohibition prevented the information from being given as to the means by which future births might be prevented. Should that state of things, not merely in the interests of justice but in the interests of the race, be allowed to continue? Many people deplored the fact that birth control was exercised by the well-to-do, but it was no use weeping over lost battlefields. The reason was this: It was not, as some said, that women were selfish and men were worthless and sought nothing but pleasure, but it was a much higher thing—the increased respect for the sanctity of life, and the desire of people to see that their children were not pressed out by the illimitable competition of unrestricted numbers. It was inspired by the hope that parents would be able to make for their children a better place in the world than they themselves once filled. The better and more thoughtful people were limiting their children, and the sickly, the diseased and the underfed were reproducing at a rate nearly double that of anybody else. He asked that duly qualified physicians should not have their discretion fettered in giving advice. The idea that economically, under all circumstances, the population ought to be reproduced was long since dead. Children were no longer to be treated as fodder for the production of big profits in the balance sheets of manufacturers. With regard to the argument that limitation of the birth rate meant descending in the scale of nations, he asked whether nations were to be tested by their fecundity, like rabbits. It was not numbers that would win the next war, but brains. As to the deep-rooted religious objection as to limitation, he was unable to understand its grounds. It was said that the right course was for men and women to exercise self-restraint, and that abstention would solve the difficulty. The doctrine of abstention was a mischievous doctrine and would lead to the shattering of more homes than any of the causes they had heard denounced in that house.

For the government, the Marquess of Salisbury said that he approached the subject with great diffidence. In trying to remedy the sorrows with which they sympathized, they must be careful that they did not strike a vital blow at a work of service which was doing infinite good to the poorest class. Lord Buckmaster would strike a fatal blow at the maternity and child welfare movement. He was proposing to introduce into its purview a subject that was alien and in the highest degree controversial. Birth control might be useful and necessary, but the kind of people interested in the one movement were not necessarily interested in the other. It would profoundly shock a large number of those engaged in the voluntary work at child welfare and maternity centers if birth control were brought within their purview. The feeling on this subject was not confined to the Roman Catholic Church. It was shared by a large number of religious bodies. Supposing a large number of these voluntary workers who agreed with the Roman Catholic Church or with other churches on this matter should resign their work at the child welfare and maternity centers, what would become of this highly successful movement? For these reasons the government could not support the motion. Birth control was not confined to people whose health dictated that they should not bear more children. It was largely supported by women who probably could have children but preferred not to have, women who preferred their own ease.

In the discussion that followed, the lord chancellor pointed out that the house was not asked to express any opinion for or against birth control, or to say whether propaganda in favor of birth control should or should not be lawful. The resolution was not confined to women who sought advice on the ground of health: it extended the right to information to all married women. Moreover, it would empower a non-medical member of the committee to give advice. The ministry of health intended that in any case in which it appeared to the committee that further conception might be dangerous to health, the person should be referred to the physician attached to the welfare center. The advice must be medical. Lord Buckmaster then said that there was a misapprehension as to the purpose of the motion. It was never his intention that information should be disseminated broadcast through unqualified people. The government did not object to the motion if he would only introduce the words "through the medical officer." He was quite willing to do so, but it was clear from the trend of the debate that the motion was opposed not on this ground, but on the ground that the information ought not to be distributed at all. He was perfectly willing that there should be medical control, but he was not willing that a physician should be put in charge of one of the most delicate and important medical subjects and that then his discretion should be fettered. The motion was carried by 57 votes to 44.

GENEVA

(From Our Regular Correspondent)

May 25, 1926.

Fibrous Pulmonary Tuberculosis

In a clinical lecture delivered at the University of Strasbourg, Prof. Dumarest stated that fibrous pulmonary tuberculosis was common and almost invariably overlooked by the physician, the diagnosis being made only by radiology. Fibrous tuberculosis is benign rather than curable, but it may remain quiescent for a long time. Pregnancy does not influence it, while its treatment is the same as in other forms of pulmonary tuberculosis.

Marienbad

The high court of justice in Prague has just published its decision on the future control of the mineral springs at Marienbad. As is well known, the Czechoslovak land office, in its redistribution of land by the seizure and breaking up of large estates, encountered strong opposition from the German monastery at Tepl, to which all the mineral springs and much property of this watering place belong. The decision reached is a compromise, which leaves certain property, including the Central Bath and Central Park, in the hands of the monastery, while the Kreuzbrunnen and the Rudolph and Ferdinand springs will be taken over by the state.

Sex Determination

Some work on the determining causes of sex is being done by Dr. E. Trottet at Bern. Experiments undertaken to date to influence sex may be divided into five categories, not always well defined: (1) surgical means, as Trottet's work in unilateral castration; (2) physical means, by influence of heat or light; (3) chemical means, such as injections of alcohol; (4) physiologic means, such as increased or decreased nutrition of the ovum; (5) means which are called chemicophysical on account of their peculiar action, such as epinephrine, choline and lecithin. Trottet's experiments with epinephrine may be termed chemicophysiologic. One of these resulted in extremely interesting data. Injections given during the first fifteen days of intra-uterine life in a rabbit gave a surplus of more than 20 per cent of males over females. More remarkable still is that of twenty-five litters, twenty-one had males in the majority; in two, females predominated, and in two the number of males and females was equal. Comparing these results with other experiments, it is evident that the effects of epinephrine manifest themselves between the tenth and fifteenth days of intra-uterine life. Egli and Coert's experiments show that differentiation of the sexes begins, in the rabbit, on the twelfth day and is marked between the fifteenth and eighteenth days. Kowalesky's experiments show that the favorable moment for influencing the sex is extremely short. In the guinea-pig it is between the fourteenth and fifteenth day of gestation; in the rabbit, epinephrine has no influence during the first five days of gestation. Trottet says that these conclusions are correct and he is able also to state that epinephrine is without action during the first ten days of intra-uterine life. The most favorable moment for influencing the sex with epinephrine in mammals is the moment when the genital glands begin to differentiate themselves.

Epinephrine is vasoconstrictive, especially on vessels of small caliber, and it is a question whether or not it is this property which exercises its influence on the development of the sex. Trottet believes that it is. Apert's experiments tend to prove that epinephrine influences the sex in favor of males, while Kowalesky's conclusion is that sex is determined by the oxygen content of the embryo's food. Food rich in oxygen produces females, while a low oxygen content produces males. Following an injection of epinephrine there is considerable vasoconstriction of the minute vessels, and hence a reduction of the placental circulation as well as that of the fetus. Although the maximum duration of the action of epinephrine is four hours, according to Trottet, it may be that by its vasoconstrictive action epinephrine causes defective placental blood circulation, and the resulting reduction of the oxygen supply hinders the development of the female genital organs. Hence Trottet and Kowalesky are in accord, although they arrive at their conclusions by very different routes.

MADRID

(From Our Regular Correspondent)

May 2, 1926.

Unveiling of Cajal's Statue

In El Retiro, the historic and most beautiful park of Madrid, a monument by the sculptor Victorio Macho has just been erected to Cajal. Macho has shown originality. A pond fed by the Spring of Life and the Spring of Death lies before a wall, which opens in the center to make room for a statue of Wisdom. Cajal's statue overlooks the water. The head especially is an excellent likeness. The king, the premier, all learned societies and government officials attended the unveiling, as well as a large crowd of students and admirers of Cajal as a scientist.

The New Public Health School

The development of the Alfonso XIII Immunology and Serotherapy Institute and the new King's Hospital for Infectious Diseases paved the way for the organization of the National Public Health School. The king again attended the dedication. Dr. Murillo, the director general of public health, pointed out the sanitary advances made in Spain during the last decades. The Public Health Service has a modern set of regulations, a force of provincial sanitary inspectors, a complete port and border quarantine system, sanitary brigades, venereal dispensaries, an antimalarial and antituberculosis organization, a number of tuberculosis sanatoriums, a child welfare institute and a drug control institute. The death rate has decreased from 29 per thousand in 1900 to 19 in 1924, meaning a reduction of 10 in the present century.

The National Public Health School will train the regular sanitary corps. In addition, it offers special courses for auxiliary and subordinate employees, such as nurses and disinfectors. Graduate teaching for physicians, engineers, architects, veterinarians and chemists, also is offered. Dr. Murillo favors specialization in health matters, but on a medical basis. "I cannot approve," he said, "a tendency born in America and introduced in some schools there, namely, the creation of a sanitary profession separate from the medical career. Without an anatomic and clinical background, it is impossible to understand disease or master prevention. Anything else leads to empiricism. This school will be guided by medical thought, and its teachers and executive officers will be physicians, although the aid of other professions will be solicited. In Spain as elsewhere, physicians will eventually make their choice between giving their full time to public health or to private practice."

A Gold Medal to Dr. Pulido Fernández

The Physicians' Society of Madrid has bestowed a gold medal on Dr. Pulido Fernández, perpetual secretary of the National Academy of Medicine. Dr. Bauer, the president of the society, reviewed Dr. Pulido's efforts on behalf of the insane, the sick, the blind, children and especially the work which has popularized Pulido's name abroad, his endeavors to reestablish old ties with the descendants of the Jews who were expelled from Spain by the Catholic kings and still speak Spanish.

Medical Matters in Argentina

Dr. Slocker, chief surgeon of the Rubín Institute, has delivered a lecture at the National Academy of Medicine on his recent trip to Argentina.

Recent hospital enlargement has increased the number of available beds in the city hospitals from 5,000 to 12,000. In addition, there are about 3,000 beds in the Spanish, Italian and other foreign hospitals. The Rawson Hospital was practically rebuilt as a whole. In the Clinical Hospital, Dr. Arce has converted his service into a surgical institute, using the 4,000,000 pesos (about $1,600,000) and 700,000 pesos (about $280,000) appropriated for the installation and maintenance, respectively, which he secured during his tenure as president of the university and member of congress.

A number of Spanish physicians have recently given lectures in the Buenos Aires medical school. Among them is Dr. Río Ortega, discoverer of the microglia, whose technic is now generally used there. The anatomic institute was created by a Spaniard, Dr. Avelino Guitérrez, who has also organized the Cajal chair. This will be occupied every year by a prominent Spanish scientist. Another Spanish professor, Dr. Pedro Ara, was engaged for three years as professor of anatomy in the Cordoba University, as the Argentinians found the specimens he exhibited at the Seville Medical Congress superior to any they had seen in either Europe or America. Medical research seems to be developing unusually well, as the munificent salaries paid attract competent workers.

Argentine physicians occupy in politics a well deserved prominence, which they turn to account to secure proper appropriations for hospitals and health purposes. Foreign physicians, including Spanish, must take a full series of examinations, spread through a four year period, and pay 3,000 pesos (about $1,200) for dues. Only in one province (Cordoba) are foreign physicians allowed to practice, pending their licensing. In unhealthful districts, such as Tucumán, foreign physicians are allowed to practice, but at a salary, and can accept no private fees.

In Argentina, no foreign professional men are needed, as their school can fill all demands. Practically every medical position in the Spanish societies and institutions is filled by Argentinians, mostly of Spanish extraction. A few years ago, an attempt was made to establish reciprocity agreements among the several South American republics and Spain, but Argentina, Chile and Uruguay demurred. Dr. Slocker pleaded for a modus vivendi, granting Spanish physicians who have resided at least five years in Argentina the same rights enjoyed by Argentine physicians trained abroad, or authorizing them to practice in towns under 5,000 inhabitants, and anywhere, provided they have been employed by the government more than five years.

VIENNA

(From Our Regular Correspondent)

May 12, 1926.

The Seventieth Birthday of Professor Freud

As the seventieth birthday of Siegmund Freud, the founder of psychanalysis, approached, his friends and pupils arranged for special ceremonies, although it was evident that the central figure would gladly have dispensed with display. Freud has spent his whole life in Vienna. He had to pass through the usual struggle with the forces of misunderstanding, ignorance and malice before he came to be recognized, and his doctrines were accorded full honors in foreign countries before they were accepted at home. In 1895, he published in collaboration with Dr. Breuer a small treatise entitled "Studies on Hysteria," which contained an exposition of the fundamental principles of psychanalysis, as demonstrated on a female patient. Freud showed in that treatise that, in the manifestations of hysteria, forgotten, or at least suppressed, conceptions or ideas played a predominant part. In his "Dream Interpretation," which appeared in 1900, he showed that "the subconscious mind" determines all our thoughts, acts and expressions of instinctive impulses. That demonstration opened up the way to an understanding of the normal psychic life and made clear also the manifestations of the pathologic psychic life. The treatises on "Witz und Unbewusstes," "Massenpsychologie," "Das Ich und das Es," and "Jenseits des Lustprincips," mark the milestones in the development of the system. The Psychanalytic Society, founded by Freud, is closely associated with allied societies in Germany, France, England, Italy and Spain. This organization has helped to demonstrate to the medical profession the significance of sex in the psychic life, just as researches on symbolism and perversion have furnished an insight into the problems of neurosis. On Freud's seventieth birthday, all the newspapers of the city, at the request of their readers, published popular articles on the nature and methods of psychanalysis.

Celebration in Honor of Professor Eiselsberg

Prof. A. Eiselsberg, Billroth's greatest pupil, has held the position of head of the First Surgical Clinic in Vienna for a period of twenty-five years, in honor of which anniversary a special celebration was held. Professor Clairmont of Zurich, Professor Marburg of Vienna, and Professor Sauerbruch of Munich emphasized the great importance of Eiselsberg as teacher, investigator and man. A number of special publications in commemoration of the day and which dealt with Eiselsberg's work were presented to him.

The Odor Emanating from the Sick

In an article in the daily press, Dr. Valentus discusses the fact that the physicians of antiquity—and also careful observers among modern physicians—were able to reach diagnosis through their sense of smell. Professor Chvostek, among others, has stressed the fact that the sense of smell should play a dominant part at the bedside. The odors of acetone in severe diabetes, of ulcerating carcinoma of the rectum or of the breast, and of cancer of the larynx or of the tongue, are well known. Many physicians know the odor of a gumma of the nose, which resembles the fetor of ozena. Many laymen are familiar with the odor of ozena. Experienced practitioners call attention to an odor given off by typhoid patients, which is, however, not always noticeable. Icterus patients have an unpleasant, easily recognized odor about them, while a room full of scarlet fever patients smells like the cages of wild animals. Hyperhidrosis pedum as well as other marked sweat secretions have a well known odor, but not many are aware that tuberculous persons give off a peculiar odor. The odors of carious teeth, of suppurating bone injuries, or of ulcus cruris are known to many. Especially, during the war, the odor of pus was familiar to all who frequented the surgical hospitals. The fetid sputum in many forms of lung disease (gangrene, bronchiectasis), and the odor of gangrenous wounds or of cholesteatoma of the ear are diagnostic. If, as Chvostek demands, one begins at the outset of medical study to note peculiar odors, much information may be secured through the nose.

Trichinosis, Rabies, Glanders and Influenza in Austria

Reports of the public health service show that, in the last covered. The origin of the infection lay in a shipment of six months, in Vienna, a few cases of trichinosis were dissmuggled pork. The outbreak of glanders was confined chiefly to a rural district in the eastern provinces of the republic. There were seven cases, five of which ended fatally. In all

cases the diagnosis was reached late, but the original focus was eliminated. There has been a considerable increase of rabies. For some unascertained reason, the control of hydrophobic animals has been lax of late. As a result, several persons have died, in spite of the fact that Pasteur treatment was administered soon. Not dogs but other domestic animals have been the offenders. There has been an epidemic of mild influenza in Austria since the middle of February. It appears either as an inflammation of the upper respiratory passages, or as "gastro-intestinal" influenza. Ear complications are common, especially in young children, but they heal quickly.

BERLIN

(From Our Regular Correspondent)

May 1, 1926.

Congress of Internal Medicine

At the annual session of the Deutsche Gesellschaft für innere Medizin, held in Wiesbaden, April 12-15 (THE JOURNAL, May 29 and June 5, pp. 1710 and 1782), the principal paper on the third topic, the pathology and therapy of asthma, was presented by Professor Klewitz, chief physician at the Medizinische Universitäts-Klinik in Königsberg.

We do not know for a certainty how an attack of asthma is brought about. It is probable that the cause is a spasm in the muscle layers of the bronchi, which may be produced in animals by the same substances which in man may bring on an attack. The spasm contracts the lumen of the bronchi, and the effect is still further increased by viscous secretions and congestion of the mucous membranes. The expiration period is lengthened, and the rhythm of breathing undergoes disturbances. We must distinguish two groups of patients. By far the majority are hypersensitve to definite substances. Such hypersensitiveness may, through transference of blood, be artifically transmitted from man to man or from man to animals. The number of substances that may produce an attack of asthma is extremely large. Among others are articles of food, substances produced by animals, chemicals, parasites, and, finally, unknown atmospheric factors, which are referable, for the most part, to plants, parasites or animals. In all these manifestations, inborn constitutional factors exert a predominant influence. In the second main group of asthma patients, hypersensitiveness plays no part. Here we have to do with disturbances of the autonomic nervous system, which is not subject to the will, but which reacts to slight psychic, chemical or physical irritants by a spasm of the bronchial muscles and a stimulation of secretions. With that is associated a functional weakness of the respiratory processes controlled by the central nervous system. The diagnosis seeks to establish the injurious substance which in the first group is the cause of the attack. The treatment consists in keeping the patient away from the things that precipitate an attack. This becomes difficult when several different foods are known to bring on the attack. Often a change of occupation becomes necessary. Of late years, attempts have been made gradually to desensitize hypersensitive persons by cautious injections of extracts of the injurious substances, but the results have not been satisfactory. Better results may be secured by nonspecific injections (peptone, tuberculin, sulphur, milk). Roentgen-ray treatment may accomplish a complete cure. In an acute attack, the most reliable remedy is epinephrine. Attempts have been made, also, in late years, to cure asthma by the operative removal of the sympathetic nerve in the neck.

During the discussion, Professor Storm of the Netherlands said that most asthma patients who are hypersensitive to any substances whatever react to injections of an extract of human dandruff, to which normal persons do not react. In high plateau regions, asthma patients are usually free from attacks. Storm ascribed this to the absence of irritating substances in the atmosphere of elevated regions. In chambers to which air had been conducted from the upper air regions, 75 per cent of the hypersensitive patients remained free from attacks. In these 75 per cent, substances floating in the air are the cause of the disease, and only in from 5 to 8 per cent is the causative factor animal hairs or food. The injurious substances in many homes are animal or vegetable parasites.

Veil of Munich observed an ionic activity in asthma which could be influenced by psychic treatment and which was the expression of a universal disturbance of the function of the vegetative nervous system. Localization in certain brain centers has been shown. Berger of Innsbruck rarely noted in hay-fever a utilizable cutaneous reaction, but occasionally secured good results from desensitization. Hofbauer of Vienna observed disturbances of nasal breathing before an asthmatic attack. He sought to reproduce these conditions in animals. Kammerer of Munich secured relatively frequent reactions with extracts he prepared himself; intracutaneous inoculation with dandruff extract effected desensitization. Leschke of Berlin found in only 10 per cent of the cases that asthma was occasioned by foodstuffs or animal hairs. A large majority of patients are hypersensitive to room dust and to infectious particles floating in the air. An allergen-free room can be dispensed with provided all rooms, and especially the sleeping room, are kept scrupulously free from dust. Asthma is related to disturbance in the midbrain, and is identical with anaphylaxis. In cases of food allergy, a test diet with zwieback, tea, sugar and red wine is recommended. Curschmann of Rostock stressed the psychogenic factor and the constitutional disposition. Calcium therapy and prophylaxis are effective, and also roentgen-ray treatment. In using epinephrine, attention should be paid to possible injuries of the aorta. Laudenheimer of Munich secured in numerous cases successful results with hypnosis, but at the same time breathing exercises were instituted. Psychic traumas were frequently noted in allergic asthma. Stöhelin of Basel expressed the view that also in allergic asthma there is always a nervous component. The treatment must therefore take account of both factors. Erich Meyer of Göttingen recognizes allergic patients by the increase of the serum globulins after the injection of protein and reinjection. Gigon of Basel observed that hypnosis may have an influence on the changes of metabolism. Krehl of Heidelberg pointed out that allergy and psychic influences interact. His of Berlin reported several cases that were allergic to various "tests." Many types could be influenced favorably by spasmolytic agents. Asthma must be viewed quite differently if it is a complication of chronic bronchitis. Attacks in children that do not yield to ordinary treatment are subject to psychic influence.

Wiesbaden's New Institute for Scientific Research in Balneology and Metabolism

The city of Wiesbaden has appropriated 100,000 marks for the erection and equipment and 50,000 marks annually for the support of an institute for scientific research in balneology and metabolism.

Marriages

RICHARD GILMORE COBLENTZ, Baltimore, to Miss Mary Knight Compton of Montgomery, Ala., May 22.

CLARENCE HAYES GLOVER to Miss Alma Belle Osteen, both of Memphis, Tenn., March 17.

JOHN H. DONOVAN to Miss Besse Evans, both of Windsor, Ill., May 3.

Deaths

Herbert Nathan Thomas Nichols ✠ Ahmeek, Mich.; Medical Department of the Tulane University of Louisiana, New Orleans, 1913; formerly assistant in anatomy at his alma mater; at one time government physician among the Eskimos, U. S. Bureau of Education; assistant physician to the Mohawk Mining Company since 1922; aged 47; died, April 5, at Calumet, of septicemia.

Alvord Gates Nichols, Boston; Medical School of Harvard University, Boston, 1922; member of the Massachusetts Medical Society; formerly on the staff of the Peter Bent Brigham Hospital; assistant medical director of the John Hancock Mutual Life Insurance Company; aged 32; died, May 18, of pylephlebitis following an abscess of the appendix.

Frank Paul Summa, Nanticoke, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1913; member of the Medical Society of the State of Pennsylvania; served during the World War; member and past president of the board of education; aged 38; died suddenly, May 13, of heart disease.

William Hilliard Cryer ✠ Birmingham, Ala.; Medical Department of the Tulane University of Louisiana, New Orleans, 1908; member of the New Mexico Medical Society; medical director and superintendent of the Jefferson Tuberculosis Sanatorium; aged 42; died, April 27, of uremia.

Charles Philadelphus Cathcart, Kansas City, Mo.; Eclectic Medical Institute, Cincinnati, 1872; University Medical College of Kansas City, 1884; member of the Missouri State Medical Association; aged 76; died, April 20, at the Christian Church Hospital, of pernicious anemia.

Arthur Parker Lewis ✠ Reno, Nev.; College of Physicians and Surgeons of San Francisco, 1900; Spanish-American War veteran; on the staff of the Reno Hospital; aged 51; died, May 26, following an appendectomy, tonsillectomy and the extraction of a tooth.

Ellsworth Orton ✠ Pontiac, Mich.; Detroit College of Medicine and Surgery, 1892; formerly mayor, city health officer and county physician; aged 60; died, May 17, at the Harper Hospital, of sepsis, following an infection of the throat.

William A. Emens, Trinity, Ala.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1905; member of the Medical Association of the State of Alabama; aged 47; died, April 25, of pneumonia.

Henry B. Lee, Summerville, S. C.; Medical College of the State of South Carolina, Charleston, 1871; for several years member of the state legislature; Spanish-American war veteran; aged 76; died, May 20, of cerebral hemorrhage.

Willet Patterson Hughes ✠ Bloomsburg, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1897; served during the World War; aged 55; died, April 26, at a hospital in Danville, of ruptured aorta caused by a fall.

Maurice A. Hansen, Osage, Iowa; Central College of Physicians and Surgeons, Indianapolis, 1898; member of the Iowa State Medical Society; aged 52; died, at a hospital in Rochester, Minn., May 10, of intestinal obstruction.

Cyril Gustavus Devron ✠ Lakeland, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1923; aged 26; died, May 4, at the Lady of the Lake Sanitorium, Baton Rouge, of bronchopneumonia.

Morgan Frederick Mount, Hot Springs National Park, Ark.; Hahnemann Medical College and Hospital of Philadelphia, 1903; member of the Arkansas Medical Society; aged 55; died, May 1, at a local hospital.

Harold Charles Golly ✠ Utica, N. Y.; Jefferson Medical College of Philadelphia, 1917; served during the World War; on the staffs of St. Elizabeth's and St. Luke's hospitals; aged 32; died, April 20, of heart disease.

George Pierrard Bertholet ✠ Pawtucket, R. I.; University of Montreal Medical Faculty, Montreal, Que., Canada, 1911; served during the World War; aged 38; died, April 21, of myocarditis and acute nephritis.

Niceus Walker Mayginnes, Tulsa, Okla.; University Medical College of Kansas City, 1884; member of the Oklahoma State Medical Association; aged 70; died, May 20, at a sanatorium in Kansas City.

Hollis F. Sigler ✠ Pinckney, Mich.; University of Michigan Medical School, Ann Arbor, 1877; past president of the Livingston County Medical Society; aged 72; died, May 10, of cardiovascular disease.

George J. Mahr, Brooklyn; Medical Department of the University of the City of New York, 1895; member of the Medical Society of the State of New York; aged 55; died, May 23, of heart disease.

Isaac Napoleon Porter, New Haven, Conn.; Yale University School of Medicine, New Haven, 1893; member of the Connecticut State Medical Society; aged 61; died, April 10, of cerebral hemorrhage.

Alexander M. Wallingford ✠ Flemingsbury, Ky.; University of Louisville School of Medicine, 1890; aged 57; died, May 9, at a hospital in Lexington, following an operation on the gallbladder.

Albert Blackburn Prewitt, Carlisle, Ky.; Louisville National Medical College, Medical Department State University, 1896; aged 58; died, May 8, of paraplegia following a long illness.

Edward Lafayette Sperry, Potter Valley, Calif.; Starling Medical College, Columbus, 1881, and Jefferson Medical College of Philadelphia, 1882; aged 69; died, March 31, at Monrovia.

Isaiah E. Hamilton ✠ Lawton, Mich.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; Rush Medical College, Chicago, 1894; aged 62; died, May 12, of heart disease.

Cecil Carl Burnett, South Solon, Ohio; Ohio State University College of Medicine, Columbus, 1916; aged 39; died, May 13, at Columbus, following an operation for gallstones.

Horace Maynard Taylor, Greeneville, Tenn.; University of Tennessee College of Medicine, Memphis, 1901; aged 51; died, May 11, of pneumonia following a cholecystectomy.

Ralph Denniston Dean ✠ Taunton, Mass.; Medical School of Harvard University, Boston, 1896; on the staff of the Morton Hospital; aged 53; died, May 11, of leukemia.

Franklin K. Berry, Philadelphia, Tenn.; Jefferson Medical College of Philadelphia, 1867; Civil War veteran; aged 84; died, March 20, at Sweetwater, of diabetes mellitus.

Henry Heilemann, Philadelphia; Jefferson Medical College of Philadelphia, 1893; veteran of the Spanish-American and World wars; aged 61; died, May 22, of heart disease.

Louis J. Lautenbach, Crystal Beach, Fla.; University of Pennsylvania School of Medicine, Philadelphia, 1881; aged 65; died, May 19, at Philadelphia, of angina pectoris.

Purvis S. Willson, Owosso, Mich.; Detroit College of Medicine and Surgery, 1893; for six years member of the Owosso School Board; aged 57; died, May 10.

William E. White, Burlington, Wis.; Milwaukee Medical College, 1897; member of the State Medical Society of Wisconsin; aged 64; died, May 9, of carcinoma.

Mary Clagett Cornell, Chicago; Hahnemann Medical College and Hospital, Chicago, 1901; aged 61; died, May 12, of bronchopneumonia and chronic myocarditis.

David F. Hanna, Gallatin, Mo.; Medical College of Virginia, Richmond, 1875; member of the Missouri State Medical Association; aged 74; died, May 13.

George Hill Carter, Lenoir, N. C.; Medical Department of the University of the City of New York, 1877; aged 70; died, April 19, of cerebral hemorrhage.

Percy Thomas Henry Wythe, Hamilton, Ont., Canada; Queen's University Faculty of Medicine, Kingston, 1920; aged 29; died, April 20.

Richard I. Vines, Longville, La.; Memphis Hospital Medical College, 1909; aged 52; died, April 12, of carcinoma of the stomach.

Charles Alexander Page, Oakville, Ont., Canada; Trinity Medical College, Toronto, 1898; aged 50; died, March 19, of pneumonia.

William Carroll ✠ Philadelphia; Jefferson Medical College of Philadelphia, 1863; aged 91; died, May 3, of hypostatic pneumonia.

Donald Johnson, Marion, Mich.; Trinity Medical College, Toronto, Ont., Canada, 1891; aged 63; died, May 4, of pneumonia.

William H. Hayes, Springfield, Mo.; Cleveland Medical College, 1860; aged 89; died, March 31, following a long illness.

Frank W. Diemer, Springfield, Mo.; Missouri Medical College, St. Louis, 1891; aged 58; died, May 11, of nephritis.

Robert M. Sproul, Lima, Ohio; Medical College of Ohio, Cincinnati, 1880; aged 79; died, May 12, of heart disease.

Frank Eugene Baldwin, Peoria, Ill.; Rush Medical College, Chicago, 1897; aged 51; died, May 16, of pneumonia.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

ALLONAL NOT ACCEPTABLE FOR N. N. R.

Report of the Council on Pharmacy and Chemistry

Allonal is a preparation containing a combination of allylisopropylbarbituric acid and amidopyrine mixed with free allylisopropylbarbituric acid and an excess of amidopyrine. The combination between allylisopropylbarbituric acid and amidopyrine is readily decomposed into its components, and the firm's claims are based on the assumption that Allonal contains these two ingredients. The claim is made that allylisopropylbarbituric acid, "the new and distinctive component," possesses a greater hypnotic power than any of the other well known hypnotics of the barbituric acid series, but that it is relatively less toxic. The Council finds that the evidence cited by the firm does not substantiate this claim, and concludes that Allonal must be considered as the result of an effort to combine in one preparation the hypnotic properties of a member of the barbituric acid series and the analgesic properties of amidopyrine. The firm publishes long lists of conditions said to have been relieved by this combination, the only individualization being the recommendation of "1 to 2 tablets" for some and of "2 to 4 tablets" for others. In none of the clinical reports submitted by the firm does the author refer to observations in which either component of the drug was used separately or in which the relative proportion was varied: the Council holds that the absence of such data deprives these reports of much of their value as arguments for the use of Allonal. The new hypnotic, allylisopropylbarbituric acid, for which great superiority is claimed, is thus made available to physicians only in fixed combination with an antipyretic and analgesic drug which may not be needed and which in itself frequently causes untoward symptoms. The Council finds Allonal unacceptable for New and Nonofficial Remedies because of unwarranted therapeutic claims, nondescriptive name, and lack of satisfactory evidence that the administration of a mixture of allylisopropylbarbituric acid and amidopyrine in fixed proportions is rational, and has authorized publication of the following report.

W. A. PUCKNER, Secretary.

Allonal was introduced by the Hoffmann-LaRoche Chemical Works, New York, with the claim that it was a new synthetic compound of allylisopropylbarbituric acid and phenyldimethyldimethylaminopyrazolon (amidopyrine) made by fusing together the two components. Subsequently it was shown that Allonal was not a definite chemical compound; evidence was submitted by the firm, however, favoring the existence in Allonal of a combination of allylisopropylbarbituric acid and amidopyrine (in different ratio than originally claimed) mixed with free allylisopropylbarbituric acid and an excess of amidopyrine; as in the case of other salts of weak acids and weak bases, the presence of water or dilute acid resolves the weak combination into its components.

The A. M. A. Chemical Laboratory has reported that the amount of allylisopropylbarbituric acid and amidopyrine in Allonal Tablets (as sold on the market) is not in molecular ratio of 1 to 2, but contains an unequivalent amount of ingredients. Whether Allonal actually contains a molecular compound of allylisopropylbarbituric acid and amidopyrine is of little moment since, even if the compound does exist, it breaks down easily in water or 0.2 per cent hydrochloric acid and acts as a mixture. Moreover, the claims are all based on the assumption that Allonal contains these two ingredients.

The Hoffmann-LaRoche firm stated that allylisopropylbarbituric acid is "the new and distinctive component" of Allonal and that it "possesses a greater hypnotic power" than any of the other well known hypnotics of the barbituric acid series but is relatively less toxic. This and similar statements seemed to imply that although the hypnotic action had been increased by the substitution of certain groups in barbital, the toxicity had not been correspondingly increased. Previous attempts to secure derivatives of barbituric acid of this character having failed, the Council asked for evidence that this had been achieved in the case of allylisopropylbarbituric acid. The firm referred the Council to one paper by Wiki, a paper by Pohl and to two papers by Redonnet as stating that this compound "possesses the same hypnotic action, as, for instance, di-allylbarbituric acid but is distinctly less toxic." Pohl (*Ztschr. f. d. ges. exper. Med.* **38**:520, 1923) reports one experiment (rabbit) in which 0.058 Gm. of allylisopropylbarbituric acid per kilogram given *subcutaneously* caused deep narcosis for eight hours with a fall of temperature of 6.8 degrees; a similar dose of "Dial" caused narcosis of shorter duration. Pohl adds "*Nach Castaldi (Therap. Monatsh.* 1915, p. 54 [should be 454]) *ist Dial zu 0.01-0.02* [Castaldi says 0.01-0.026] *per Kilo für Kaninchen tödlich, die Allylisopropylbarbitursäure somit weit weniger giftig als jenes.*" ("According to Castaldi Dial is fatal to rabbits in doses of 0.01 to 0.02 [Castaldi says 0.01 to 0.026] per kilogram; therefore allylisopropylbarbituric acid is much less toxic.") The figures given by Castaldi relate to the toxicity of Dial injected *intravenously*—a fact evidently overlooked by Pohl, Redonnet and the Hoffmann-LaRoche firm. Wiki found the dose of "dial-natrium" containing about 90 per cent of the acid given intra-arterially which arrested respiration and which, according to Wiki, would certainly have caused death had not artificial respiration been employed to be 0.024 Gm. per kilogram; the corresponding dose of the compound of allylisopropylbarbituric acid and diethylamine, containing 75 per cent of the acid, was 0.02 Gm. per kilogram.

One of the papers by Redonnet (*Arch. internat. de pharmacodyn. et de Therapy.* **25**:25 [properly 241], 1920) makes no mention of allylisopropylbarbituric acid. In the other paper (ibid. **30**:321, 1925) Redonnet describes one experiment in which he administered, by stomach to one cat, 0.01 Gm. of the allylisopropylbarbituric acid and to another 0.01 Gm. of Dial per kilogram. The temperature of the first cat fell to 35.3 and the respiration to 30 per minute, whereas the temperature of the other cat (the cat receiving the Dial) fell to 33.8 and the respiration to 12; the absorption, narcotic action, elimination, etc., were similar in the two animals. (It should be noted that the results are just the opposite of those obtained by Pohl; see the preceding.) Redonnet states that these results led the firm of Hoffmann-LaRoche to replace the "Dial" of "Somnifen" by the new hypnotic, thus obtaining a drug of the same activity, but the toxicity of which is a "little diminished" (the author further states that the fatal dose of the new "Somnifen" which contained allylisopropyl compound instead of "Dial," was, for rats, subcutaneously, 1.6 cc. per kilogram, whereas that of the old Somnifen was 1.4 cc.).

The two experiments of Pohl and Redonnet (which, as pointed out above, contradict each other), do not show that there is any significant difference as regards the ratio between the narcotic and the toxic actions of allylisopropylbarbituric acid and diallylbarbituric acid (the two compounds selected by the firm for comparison).

The third author quoted by the firm as having shown such a difference is Wiki (*Arch. internat. de pharmacodyn. et de therap.* **27**:117, 1922). This author has clearly expressed his own views on this subject in the following words (p. 161): "It is impossible for us to draw, from our experiments, definite conclusions as to the superiority of the one over the other" and further, that the diallyl and the allylisopropyl compounds seem to be practically equivalent, both having comparable advantages and disadvantages.

Wiki also made a number of comparisons between the diallyl and the allylisopropyl compounds on the one hand, and barbital and phenobarbital on the other. Since phenobarbital is used to a considerable extent for purposes distinctly different from those for which the other compounds are used, the question of its relative efficiency and safety is of less interest in this connection. Wiki states (p. 160) that to produce simple sleep, four to five times as much of barbital is necessary as of the allylisopropyl compound; he also states

(p. 128) that to arrest respiration 0.15 Gm. per kilogram of the latter and 1.01 Gm. (or 6.7 times as much) of the former is necessary. Wiki also describes experiments in which the animals were kept alive by means of artificial respiration and the administration of the drugs continued until death resulted from circulatory failure; 0.75 Gm. of the allylisopropylbarbituric acid and 3.46 Gm. of barbital (or 4.6 times as much) was necessary. The author also states (p. 129) that to produce anesthesia about five times as much barbital as of the allylisopropyl compound is necessary. Thus, whether the criterion for physiologic action is the production of simple sleep or of anesthesia, and that for toxicity is stoppage of the respiration or of the heart, there is a close parallelism between the physiologic (corresponding to the therapeutic) action and the toxic action; that is, toxic action increases in the same ratio as does the physiologic action. The only significant deviation from this is to be found in comparisons of the simple hypnotic doses with those causing arrest of the respiration (the cause of death unless artificial respiration is maintained): from these it would seem that, whereas only four to five times as much barbital as of the allylisopropyl compound is necessary to cause sleep, about 6.7 times as much is necessary to cause death. Thus, from the standpoint of use as a simple hypnotic (in which physicians are chiefly interested) the advantage lies with barbital.

The only point in which Wiki claims that the isopropyl compound is superior to barbital is in experiments on rabbits in which doses sufficient to cause anesthesia were given; in these he found the blood pressure slightly higher in the case of the animals anesthetized by the allylisopropyl compound than in those anesthetized with barbital (96 per cent, as compared with 84 per cent of the original pressure). Also after doses sufficient to paralyze the respiration (the animals being kept alive by artificial respiration), the blood pressure was somewhat higher in the case of the animals poisoned with the allylisopropyl compound (77 per cent of the original as compared with 55 per cent in the case of the animals poisoned with barbital). In similar experiments on a dog, however, barbital depressed the blood pressure less than did the allylisopropyl compound.

Lepper (*Arch. f. d. ges. Physiol.* **204**:498, 1924) states that dilute solutions of barbital constrict blood vessels, and Redonnet (*Arch. internat. pharmacodyn. et de therap.* **30**:327, 1925), states that barbital in therapeutic doses (in which physicians are most interested) causes a slight elevation of blood pressure; Redonnet quotes Castaldi as stating that the diallyl compound causes only a fall of blood pressure.

Thus, of the four papers cited by the firm in support of their claim that allylisopropylbarbituric acid "possesses the same hypnotic action as, for instance, diallyl-barbituric acid but is distinctly less toxic" the allylisopropyl compound is not mentioned in one; the conclusion drawn in another (the paper by Pohl) is based on an incomplete and misleading quotation (by Pohl) from another author (Castaldi) and shows nothing; a third paper quotes a single inconclusive experiment (which is also in conflict with the experiment of Pohl), and the fourth paper (by Wiki), instead of supporting the firm's contention, contradicts it in essential respects. The work of Fredet and Fabre on "tissue affinity, method and duration of elimination, etc.," has no bearing on the point under discussion, viz., whether in relation to its narcotic power the new compound is less toxic than other members of the barbituric acid series.

Frequent reference is made in trade circulars and the clinical reports, distributed by the Hoffmann-LaRoche Chemical Works, to Allonal as a "Hypno-Analgesic"; the hypnotic feature is especially emphasized at one time, the analgesic at another. The hypnotic action seems to be attributed chiefly to the presence of the "new hypnotic, allyl-isopropyl-barbituric acid," which "is not to be confused with other members of the barbituric acid series which have long been used as hypnotics" (although, as pointed out in the preceding, no evidence has been submitted to show that this compound has advantages over the similar compounds "which have long been used as hypnotics"). Since nothing is said as to analgesic properties of the "new hypnotic," those of "Allonal" are presumably due to the presence of amidopyrine, a drug which has been in use as an analgesic for nearly thirty years. In other words, the effort is made to combine in one preparation the hypnotic properties of barbital and the analgesic properties of amidopyrine. A circular letter begins:

"Dear Doctor: The value of Allonal for quieting pain has been so thoroughly demonstrated and widely written about that many members of the profession have come to think of it only as an analgesic. Have you tried Allonal for its hypnotic effect? As an hypnotic the action of Allonal is splendid."

A later circular letter begins:

"Suppose you had a patient suffering greatly and unable to sleep because of pain, and Morphine had failed to bring relief . . . would you not be glad to learn of a new nonnarcotic drug that had been tried by many members of the profession and found to be highly effective in such cases?"

And then again:

"Queer, isn't it, how many people lie awake for hours at night fighting to go to sleep? Physically tired but mentally alert—too alert for sleep. . . . In these cases a reassuring talk on the part of the physician and just one Allonal tablet upon retiring usually gives very satisfying results."

And so on. Long lists are given of conditions in which Allonal has been successful, such as: "Multiple Neuritis," "Rheumatoid Arthritis," "Tabetic Pains," "Agitated Depression," "Paralysis Agitans," "Drug Addiction," "Alcoholic Poisoning," "Arteriosclerosis," "Paresis," "Trifacial Neuralgia," "Polyarthritis," "Tic-douloureux," "Postoperative Pain," "Inflammatory Glaucoma," "Cellulitis," "Nephritic Pain," "Paroxysmal Headache," "Carcinoma," "Chronic Asthma," "Chronic Pancreatitis," "Colitis," "Intercostal Neuralgia," "Neuralgia," "Mental Disorders," "Persistent Hiccough," "Gastric Crises in Tabes," "Mild and Severe Insomnia," "Menstrual Pains," "Neuritis," "Chronic Prostatitis," "Luetic Headache," "Insomnia without pain," "Painful Menstruation," "Trigeminal Neuralgia," "Bell's Palsy," "Hodgkin's Disease," "G. U. Conditions," "Dysmenorrhea," "Nervous Manifestations of Pregnancy and the Puerperium," "Dementia praecox," "Cerebrospinal lues," "Abscessed tooth," "Hemorrhoids," "Melancholia with drug addiction," "Carcinoma of the rectum," "Chronic asthma," "Mucous colitis with severe peristaltic contractions," "Headache," "Hemiplegic insomnia," "Post-operative Neuralgia," "Alcoholic Excesses," "Pelvic Pain in Women," etc., etc.

All of these and many other conditions are listed as having been relieved by this combination, in fixed proportions, of an hypnotic and an analgesic drug; the only individualization suggested is "1 to 2 tablets" for some and "2 to 4 tablets" for others. The Council believes that physicians should consider the needs of the individual patient to a greater extent than this: to give perhaps more of the hypnotic and less of the pain-relieving drug "in cases of insomnia without pain" and more of the analgesic in "carcinoma of the rectum," etc. In none of the clinical reports submitted by the firm does the author refer to observations in which either component of the drug was used separately or in which the relative proportion was varied; the absence of data on this subject deprives these reports of much of their value as arguments for the use of Allonal. The Council has long held that in the case of pharmaceutic preparations and mixtures "it is important that the prescriber should be reminded constantly of their potent ingredients."

Concerning the prescription of two drugs in the proper proportion, the firm states:

"If the Council believes that the fixed proportions of Allyl-isopropyl-barbituric acid and Amidopyrine in Allonal are irrational . . . we are again sorry. We must state, however, that what seems in the Council's eyes irrational is only so when viewed from a purely idealistic standpoint; from a practical standpoint, unless the profession should be thoroughly enlightened by educational work on the part of some one properly qualified, unfixed proportions would certainly prove a great deal more irrational."

The new hypnotic for which great superiority is claimed has not been made available; if the physician desires to use it he is forced to give at the same time amidopyrine, an antipyretic as well as analgesic drug which may not be needed and which of itself not infrequently causes untoward symptoms.

In this connection, the view of Redonnet (to whose writings the firm referred the Council for further information on the barbituric acid hypnotics) may be cited. Redonnet in his latest publication on this subject (*Arch. internat. de pharmacodyn. et de therap.* **30**:324, 1925) remarks: "Some have thought to augment the activity of these hypnotics [of the barbituric acid series] in associating them with various medicaments, especially with the analgesics and the alkaloids of opium." Among such mixtures of combinations are mentioned: "Veronacetin, Somnacetin, Veramon, Quiesan, Quieonal, Dialacetin, Allonal, etc."; after speaking of certain disadvantages of the mixtures of the barbituric acid hypnotics with the synthetic analgesics (such, for example, as disturbances of the heat regulating centers), he adds, "In cases of insomnia caused by pain better results may, however, be obtained with these preparations than with the hypnotics alone; but we believe that it is preferable to administer them separately in order to better graduate the respective doses of each medicament."

The Council finds Allonal unacceptable for New and Nonofficial Remedies because (1) the therapeutic claims advanced are deemed unwarranted by the facts; (2) the name is not descriptive of its composition, and (3) there is no satisfactory evidence that the administration of a mixture of allylisopropylbarbituric acid and amidopyrine in fixed proportion (or of a feeble chemical compound of these two that behaves in the stomach like a mixture) is rational.

The Council is prepared to consider the acceptance of allylisopropylbarbituric acid when it is offered in pure form and with claims that are supported by adequate evidence.

Correspondence

UNWARRANTED USE OF PHOTOGRAPH BY ANGIER CHEMICAL COMPANY

To the Editor:—A few days ago I received in my mail an advertisement of an emulsion of cod liver oil, made by the Angier Chemical Company, Boston. My photograph is on the cover of the advertisement and my name under it. No explanation is given. The inference may be that I am connected with the exploitation of this emulsion. The truth is that this is the first time I ever heard of it; I do not know where the photograph was secured and never gave permission for its use. It is, to say the least, an unwarrantable invasion of privacy, but it also lays me open to suspicion of being interested in the sale of a proprietary remedy. The advertisement has been widely circulated and apparently sent simultaneously to all parts of the country, so that any protest which might be made would come too late. I wish nevertheless to register a protest against this form of publicity, and I hope that physicians in general will frown on it until commercial companies learn that such methods do them more harm than good.

ALICE HAMILTON, M.D., Boston.

NEWSPAPER PUBLICITY REGARDING "ADJUSTMENT CURES" AT CORNELL UNIVERSITY

To the Editor:—It has come to my notice that there has been widespread newspaper publicity in regard to certain alleged discoveries at Cornell University of a cure for rheumatism, sciatica and numerous other diseases, and the reaction of the osteopaths, chiropractors and others to these newspaper articles makes it seem wise that there should be a statement of the facts.

An alumnus of the university and another physician of New York State, at their own request, were permitted to work in the anatomic laboratory of the Ithaca Division of the Cornell University Medical College. They desired to determine whether there was any anatomic basis that would explain a large number of symptoms which they claimed were relieved by certain manipulations which they performed. It was their opinion that these varied symptoms were caused by "sacroiliac dislocations" and that their manipulations "reduced" these.

No member of the staff of the medical college was engaged in the investigation, and the physicians conducting the inquiry were unable to demonstrate any anatomic basis that would explain either the symptoms or the results that they claimed to obtain. I do not know the source of the newspaper story.

ABRAM T. KERR, Ithaca, N. Y.
Professor of Anatomy, Cornell University Medical College.

"OXYGEN TREATMENT OF MALIGNANT EDEMA"

To the Editor:—In THE JOURNAL, May 1, appeared a clinical note on the "Oxygen Treatment of Malignant Edema," by Dr. R. P. Roantree, Elko, Nev. The author stated that he did not find in the literature any mention of a patient treated in this manner.

It is only fair to give the credit of the method to Professor Thiriar of Brussels, who described it as far back as 1899. Since that time the oxygen treatment has been extensively used in various pyogenic conditions, but has met with special favor in the treatment of the anaerobic infections. During the World War we found it efficient when gas gangrene was a prevalent complication. During the last years of the war it was not used frequently because prophylaxis was successful and because better curative methods had been found.

The literature on the subject is quite extensive; may I refer to these few papers:

Thiriar, Jules: De l'emploi de l'oxygène en chirurgie, *Bull. Acad. roy. de méd. de belgique*, 1899.
Wohlgemuth, Heinz: Der Wert des Sauerstoffs in der Chirurgie, in Handbuch der Sauerstofftherapie, Berlin, 1906.
Phipps, E. F.: De l'emploi en thérapie chirurgicale de l'oxygène, Thèse de Paris, 1916.

CHARLES L. JANSSEN, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIAGNOSIS OF SCARLET FEVER

To the Editor:—We are having an epidemic of scarlet fever, and it is so mild that it is sometimes impossible to say whether it is scarlet fever or not. I had a sound boy of 12 in whom I diagnosed scarlet fever on the strength of a rash on his chest, a suggestive tongue and a slightly red throat. He was slightly ill, and his mother would hardly accept my diagnosis. A few days later she had the same symptoms. Then a younger brother got scarlet fever from head to foot, and they accepted the cases as scarlet fever. Then a bigger brother got slightly sick. The boy first taken ill returned to school, and two days ago fell and struck the back of his head on a rock. His wound pained him when I saw him; he vomited, had headache and had fever to 104. I attributed this to the wound, which had scabbed over, and which on being opened yielded pus. Now comes the part that puzzles me: Today he has a typical scarlet rash all over, a suggestive tongue and a red throat. Is it possible to have scarlet fever twice so close together?

A. C. MULLER, M.D., Durham, Calif.

ANSWER.—It is impossible from the information given to clear up all the points raised. The possibility of concurrent epidemics of scarlet fever and German measles must be considered. The presence of a moderate polymorphonuclear leukocytosis and hemolyzing streptococci in the throat would speak in favor of scarlet fever. In scarlet fever a positive Dick test before or at the beginning of the sickness, with a negative one after recovery, is usual, while this would not be true in German measles. Two attacks of scarlet fever in a person may occur, and there is no arbitrary time that must elapse between them. A second attack, usually spoken of as a recurrence, may occur after about a month.

HAIR DYES

To the Editor:—In THE JOURNAL, Nov. 14, 1925, p. 1578, two prescriptions were given for dyeing the hair. It is true that they dye, but the hair does not get quite dry and it stains afterward. Is there any special technic for use?

F. ODUBER, M.D., Pto. Cumarebo, Venezuela.

ANSWER.—The moisture is probably due to the glycerin in the first solution. This should be easily removed by washing the hair with water after the use of the second solution. If desired, the first solution may be made up with half the amount of glycerin, which may lessen the difficulty.

SCARLET FEVER AND GERMAN MEASLES

To the Editor:—Scarlet fever cases were reported in three directions from this village, while from the fourth direction came reports of German measles (rubella). My first case occurred early in February and was a mild but typical case of scarlet fever. Fifteen days later a younger brother developed a mild and brief illness which corresponded very nearly to rubella as usually described. April 28, the first child was again showing the symptoms of scarlet fever. Is this second attack a flare up of a hidden infection or a reinfection? There are now about a dozen cases of scarlet fever in this vicinity. Is a papular form of eruption, especially a "goose-flesh" eruption, characteristic of many scarlet fever cases, sufficiently distinctive to be a differential point? Does "goose-flesh" attract attention in rubella?

Assume that both diseases are present in a locality and that the prevailing scarlet fever is mild and atypical. In one house are three children, 8, 6 and 1¼ years of age. The oldest child has very mild scarlet fever. The older children were exposed at the same time to the same infection. The parents consent to giving the baby the contents of Lilly's "Prophylactic Package" of antitoxin. Should the 6 year old be given a similar prophylactic dose or the larger treatment dose?

A child of 9 years received three vaccination treatments in February. Ten days ago he developed mild scarlet fever. The mother of this child herself had one "vaccination" treatment (injection) as soon as the boy became ill. One week later she asked for her second shot. The vials containing the usual second and third doses were accidentally crushed; so about half of a prophylactic package syringe was given. That night her arm became very painful and a large red area about 3 by 4 cm. developed at the site of this injection. Presumably this is an irritating and considerably larger dose than the usual second injection. In consideration of this, will it be safe to give her a third dose in two weeks or less after the second injection? Please omit name and address.

M.D., South Dakota.

ANSWER.—It is not always possible to differentiate German measles from scarlet fever by the appearance of the rash or other symptoms. In scarlatinal rashes, the intradermal injection of from 0.1 to 0.2 cc. of scarlet fever antitoxin usually results in a local blanching. Scarlet fever antitoxin does not blanch the rash of German measles.

It is not possible to say from the symptoms described in the letter whether the first case was one of German measles or scarlet fever. It may be pointed out, however, that second attacks of scarlet fever, while uncommon, may occur.

The passive immunization from the administration of antitoxin cannot be expected to last more than two weeks. Prophylactic injection of antitoxin is an emergency measure to prevent the development of scarlet fever in susceptible persons already perhaps infected. Various manufacturers have placed on the market prophylactic doses of scarlet fever antitoxin that differ considerably in antitoxin content. In some instances the amount of antitoxin has been too small to afford protection. Firms licensed by the Scarlet Fever Committee are required to put out a prophylactic dose of scarlet fever antitoxin which is at least one-half the therapeutic dose.

Without information as to the dosage of toxin used in immunizing the 9 year old boy, it is not possible to say what result might be expected. The following dosage is recommended: First, 500 skin test doses. Second, 1,500 skin test doses. Third, 5,000 skin test doses. Fourth, 15,000 skin test doses. Fifth, from 25,000 to 30,000 skin test doses.

Following these five doses, given at intervals of one week, a skin test should be made, and if it is not entirely negative, the last dose is repeated until the skin test is negative.

It may be that the three doses did not contain enough toxin to immunize the child, and that the present illness is scarlet fever.

In the case of the mother who received one "vaccination" treatment and not the others because of the broken vials, there seems to have been a confusion between the toxin employed in graduated doses for the more permanent active immunization, and the prophylactic dose of antitoxin, which is usually distributed in syringes and used for temporary passive immunization. The mother probably received one dose of toxin, and then one half of a prophylactic dose of antitoxin. Neither would be sufficient to protect her from scarlet fever. No mention is made of a skin test on the mother. A negative skin test would indicate that she did not require immunization.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 13-16. Sec., Dr. S. W. Welch, Montgomery.

ARIZONA: Phoenix, July 6. Sec., Dr. W. O. Sweek, 404 Heard Bldg., Phoenix.

CALIFORNIA: San Francisco, July 12-15. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.

COLORADO: Denver, July 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, Reg. Bd., July 13-14. Sec., Dr. Robert L. Rowley, 79 Elm St., Hartford. Homeo. Bd., New Haven, July 13. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, Regular Board and Homeo. Board, June 15-17, Pres., Dr. H. W. Briggs, Wilmington.

FLORIDA: St. Petersburg, June 14-15. Sec., Dr. H. M. Rowlett, Box 603, Tampa.

HAWAII: Honolulu, July 12-15. Sec., Dr. A. L. Davis, 1254 Emma Street, Honolulu.

INDIANA: Indianapolis, July 13-15. Sec., Dr. Wm. T. Gott, 421 State House, Indianapolis.

KANSAS: Kansas City, June 15. Sec., Dr. Albert S. Ross, Sabetha.

KENTUCKY: Louisville, June 24-26. Sec., Dr. A. T. McCormack, 532 West Main Street, Louisville.

MAINE: Augusta, July 6-7. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: Baltimore, Reg. Bd., June 15-18. Sec., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 15-16. Sec., Dr. Joseph S. Garrison, Old Orchard Rd., Ten Hills, Baltimore.

MASSACHUSETTS: Boston, July 13-15. Sec., Dr. Frank M. Vaughan, Room 144, State House, Boston.

MINNESOTA: Minneapolis, June 15. Sec., Dr. A. E. Comstock, 734 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 24-25. Sec., Dr. F. J. Underwood, Jackson.

MISSOURI: St. Louis, June 28-July 1. Chief, Licensure, Dr. Ross Hopkins, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS: Part I, June 21-23; Part II, June 22-23. All applications should be made on or before May 15. Sec., Dr. J. S. Rodman, 1600 Walnut Street, Philadelphia.

NEW JERSEY: Trenton, June 15-16. Sec., Dr. Alexander MacAlister, Room 1101, Trenton Trust Bldg., Trenton.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 28-July 1. Chief, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

NORTH CAROLINA: Raleigh, June 21-25. Sec., Dr. K. P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 6. Sec., Dr. G. M. Williamson, Grand Forks.

OKLAHOMA: Oklahoma City, June 15-16. Sec., Dr. J. M. Byrum, Shawnee.

OREGON: Portland, July 6-8. Sec., Dr. U. C. Coe, 1208 Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 13-17. Director Prof. Education, C. D. Koch, Harrisburg.

RHODE ISLAND: Providence, July 1-2. Sec., Dr. B. U. Richards, 315 State House, Providence.

SOUTH CAROLINA: Columbia, June 22. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Custer, July 20. Director, Med. Lic., Dr. H. R. Kenaston, Bonesteel.

TEXAS: Austin, June 15-17. Sec., Dr. T. J. Crowe, 918 Mercantile Bank Bldg., Dallas.

UTAH: Salt Lake City, July 6. Dir., Mr. J. T. Hammond, 412 State Capitol Bldg., Salt Lake City.

VERMONT: Burlington, June 23. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 16-19. Sec., Dr. J. M. Preston, 720 Shenandoah Life Bldg., Roanoke.

WASHINGTON: Olympia, July 6. Director, Dept. of Licenses, Mr. Charles R. Mayblury, Olympia.

WEST VIRGINIA: Martinsburg, July 6. Sec., Dr. W. T. Henshaw, Charleston.

WISCONSIN: Milwaukee, Basic Science Board, June 12-13. Sec., Dr. M. F. Guyer. Regular Board, June 29-July 1. Sec., Dr. Robert E. Flynn, State Bank Bldg., La Crosse.

Connecticut March Examination

Dr. Robert L. Rowley, secretary of the Connecticut Medical Examining Board, reports the written examination held at Hartford, March 9-10, 1926. The examination covered 7 subjects and included 70 questions. An average of 75 per cent was required to pass. Of the 15 candidates examined, 12 passed and 3 failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Yale University School of Medicine		(1924)	83.8, (1925) 77.2, 81.2, 82.7, 86.3
Georgetown University School of Medicine		(1925)	83.3, 87
Boston University School of Medicine		(1925)	78.7

Tufts College Medical School	(1925)	76.5
Queen's University Faculty of Medicine	(1924)	79.2, 80.8
University of Montreal Faculty of Medicine	(1924)	75

FAILED	Year Grad.	Per Cent
Jefferson Medical College of Philadelphia	(1912)	36.2
Meharry Medical College	(1923)	62.1
University of Naples, Italy	(1919)*	58.5

Dr. Rowley also reports that 14 candidates were licensed by endorsement of their credentials at the special meeting held at Hartford, March 26, 1926. The following colleges were represented:

ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Yale University School of Medicine	(1921), (1924)	N. B. M. Ex.
Rush Medical College	(1925)	Illinois
Johns Hopkins University Medical Department	(1923)	Maryland
Harvard University	(1916) Massachusetts, (1920)	Michigan
Tufts College Medical School	(1922)	Mass.
University of Michigan Medical School	(1923)	Michigan
Albany Medical College	(1911)	New York
Columbia University College of Physicians and Surgeons	(1896) New Jersey, (1905)	New York
Cornell University Medical College	(1923)	New York
University of Pennsylvania School of Medicine	(1913)	Penna.
University of Vermont College of Medicine	(1887)	Vermont

* Verification of graduation in process.

Missouri March Examination

Dr. James Stewart, secretary of the Missouri Board of Health, reports the written examination held at Jefferson City, March 9-11, 1926. The examination covered 15 subjects and included 128 questions. An average of 70 per cent was required to pass. Of the 22 candidates examined, 20 passed and 2 failed. The following colleges were represented:

PASSED	Year Grad.	Number Passed
Northwestern University Medical School	(1923)	2
State University of Iowa College of Med.	(1907) 1, (1925)	1
University of Kansas School of Medicine	(1918)	1
Harvard University	(1922) 1, (1923)	1
University of Minnesota Medical School	(1925)	1
St. Louis University School of Medicine	(1925) 2, (1926)	4
Washington University School of Medicine	(1925) 1, (1926)	1
Eclectic Medical College, Cincinnati	(1923)	1
University of Pennsylvania School of Medicine	(1922)	1
Meharry Medical College	(1909)	1
University of Szegedin, Hungary	(1914)*	1

FAILED	Grad. Year	Failed Number
John A. Creighton Medical College	(1916)	1
University of Naples, Italy	(1922)*	1

* Verification of graduation in process.

Book Notices

INTESTINAL TUBERCULOSIS. Its Importance, Diagnosis and Treatment: A Study of the Secondary Ulcerative Type. By Lawrason Brown, M.D., Chairman of the Medical Board of the Trudeau Sanatorium, Saranac Lake, New York, and Homer L. Sampson, Roentgenographer of the Trudeau Sanatorium, Saranac Lake, New York. Cloth. Price, $4. Pp. 304, with 112 illustrations. Philadelphia: Lea & Febiger, 1926.

This is a thorough discussion of the subject; more than that, it carries a significant message, based on the authors' rich experience. Intestinal tuberculosis is not a terminal and hopeless complication of pulmonary tuberculosis, yielding to no therapeutic efforts, as generally represented in textbooks; if diagnosed early, it is as amenable to treatment as an incipient or moderately advanced pulmonary tuberculosis. An extensive statistical presentation of symptoms and signs renews forcibly the impression of the protean character of the disease and of the impossibility of a correct diagnosis. But the authors make the assertion, well substantiated by their statistics, that a correct observation of certain filling-defects after a radiopaque meal or enema and definite alterations in the motility of the intestines make it possible to diagnose ulcerations correctly in approximately 100 per cent. In the chapter on pathologic anatomy (which is all too brief) it is pointed out that Gardner found much tendency to spontaneous healing, rendered futile, as a rule, by the simultaneous spread of the disease. But in patients who had been treated a considerable length of time, complete healing had occurred with epithelial regeneration. The treatment consists of heliotherapy or, in Saranac Lake preferably, irradiation with the mercury vapor quartz lamp. Since heavy dosage of rays is given over the entire surface of the body, it is surprising that no mention is made of the effect on the pulmonary process. The experience has been made frequently, here and in Europe, that certain pulmonary processes react so severely to ray treatment as to make thorough heliotherapy of a concomitant extrapulmonary focus impossible. Of a group of seventy-four patients treated with the lamp, 31 per cent were cured (no roentgenologic signs of the disease could be detected any more) and 65 per cent were considerably benefited. These figures alone show that every one who treats tuberculous patients should study seriously the authors' methods of diagnosis and treatment.

LEHRBUCH DER SPEZIELLEN PATHOLOGIE UND THERAPIE DER INNEREN KRANKHEITEN. Für Studierende und Aerzte. Von Professor Dr. Med. Adolf Strümpell, Direktor der medizinischen Klinik der Universität Leipzig. Von Professor Dr. Med. et Phil. Carly Seyfarth, Assistent an der medizinischen Klinik der Universität Leipzig. Twenty-fifth edition. Paper. First Volume. Pp. 872, with 147 illustrations. Second Volume. Pp. 985, with 200 illustrations. Leipsic: F. C. W. Vogel, 1926.

Shortly before his death, Strümpell wrote in his autobiography: "December 24, 1881, in the afternoon, I sat down at my writing-table and proudly traced these words in large letters on the uppermost sheet of a thick mass of paper, 'First Chapter. Typhoid Fever.' That the book thus begun should have such unusual success and that I forty-two years later, in my seventy-first year, should be working on the twenty-fifth edition, I then could neither foresee nor assume." Of this book, 95,000 copies in German have been sold, and it has appeared in English, French, Russian, Spanish, Italian, Greek, Turkish and Japanese translations, in some cases in several editions. A translation by Herman F. Vickery and Philip Comps Knapp of Boston from the second and third German editions was published by Appleton & Co. in 1892, and the fourth edition, based on the seventeenth German, appeared in 1911. Strümpell's textbook is undoubtedly the most widely used book in its field of modern times. While translated into more languages than any other similar book, Osler's Practice appears to have exceeded it in the numbers sold of the original editions. In a presentation copy of his sixth edition in 1905 Osler writes, "This is number 62 of the first 105,000 copies printed." Professor Seyfarth began to collaborate with Strümpell in the revision for the twenty-second edition. Strümpell himself worked on the present edition since 1923, giving particular attention to his favorite section, nervous diseases, and that section now appears as he left it. The other parts of the book have been revised by Seyfarth. Thorough and dependable, clear and concise, Strümpell's book is noted especially for its masterly presentation of nervous diseases. Students and practitioners alike from the first have found it a reliable guide in the study of internal diseases, and the twenty-fifth revision fully merits the same confidence and use as its predecessors.

CHEMICAL PATHOLOGY. Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By H. Gideon Wells, Ph.D., M.D., Professor of Pathology in the University of Chicago and in Rush Medical College, Chicago. Fifth edition. Cloth. Price, $8.50. Pp. 790. Philadelphia: W. B. Saunders Company, 1925.

Eighteen years ago, the first edition of this book was written. The present edition appears five years after its immediate predecessor. From its first edition the aim of the work has been to gather from the fields of pathology, chemistry, physics, general medicine and allied sciences such material as would contribute to a consideration of pathology from the chemical point of view. The result has been recognized among authorities as unique, scholarly, logical and usable. Its place cannot be taken by any other book, either as a source of references to relevant periodical material or as a valuable body of subject matter in itself. In the preface to the present edition, the author points out that the preparation of a briefer or of an exhaustive work would have been comparatively easy. To select, however, that which is valuable and stimulating, even though it may not have become completely established, is obviously a more difficult task. In order to adhere to a policy of compression without undue exclusion, the book has been almost entirely rewritten and

new material included. At the same time, preliminary discussion of principles now generally known has been omitted. The book continues, admirably, to fill its place among standard, authoritative works.

ALLEN'S COMMERCIAL ORGANIC ANALYSIS. A treatise on the properties, modes of assaying, and proximate analytical examination of the various organic chemicals and products employed in the arts, manufactures, medicine, etc., with concise methods for the detection and estimation of their impurities, adulterations, and products of decomposition. Volume IV, special characters of essential oils; resins, india-rubber, gutta percha, balata, and allied substances; the constituents of essential oils, and allied substances; the general characters and analysis of essential oils. Edited by Samuel S. Sadtler, S.B., Member American Institute of Chemical Engineers, Elbert C. Lathrop, A.B., Ph.D., Member American Institute of Chemical Engineers, and C. Ainsworth Mitchell, M.A., F.I.C., Editor of "The Analyst." Fifth edition. Cloth. Price, $7.50. Pp. 648. Philadelphia: P. Blakiston's Son & Co., 1925.

The new volume of this work is divided into five chapters: one a short treatise on resins; the second on india rubber, gutta percha, balata and allied substances; the other three on the essential oils. In the last three chapters are considered (1) various individual oils, with brief statements concerning the source, chemical content, physical properties, impurities and possible adulterants; (2) some of the constituents from a distinctly chemical point of view, and (3) the analytic methods applicable to the essential oils, written in epitomized form. The rewriting has been quite complete: in fact, the volume has been almost entirely rewritten, some of the old work having been deleted and new work inserted. Much of the information is of little value to those not actively engaged in the manufacture or analysis of cosmetics, essential oil preparations or pharmaceutic products, and the book, therefore, will be of chief interest only to those engaged in such manufacture or analysis. For these the volume is a valuable reference work because (1) it contains a vast amount of carefully compiled material, and (2) the abundance of references to the original literature supplements the sometimes abbreviated discussions.

YOUR HAIR AND YOUR HEALTH. By Oscar L. Levin, M.D., Chief of Clinic, Cornell University Medical College and Clinic. Cloth. Price, $1.50. Pp. 163, with 10 illustrations. New York: Greenberg, 1926.

This is a popular book on the hair and things that pertain thereto. It is written in sprightly style and holds well the reader's attention. As a matter of fact, the style is perhaps too sprightly. It leads the writer into a way of making positive statements that are at best opinions—certainly not facts. The thesis of the book is that "healthy hair needs a healthy constitution" (p. 13). That is a hard thesis to maintain in the face of the battalions of bald-headed men who are certainly as healthy as the rest of us and, we are inclined to believe, a little tougher. "Hairs do grow thicker and stiffer from shaving, however, and so does the hair of women who have undergone bobbing. When so-called [why so-called?] superfluous hair is temporarily removed by shaving, pulling or mechanical depilatories, the succeeding hairs are also thicker and stiffer" (p. 14). That is all opinion which is in conflict with some very careful studies. Who is in position to say now that the hair of women grows thicker from bobbing? It has not had any appreciable effect in that direction on the men who have been bobbing their hair for geological ages compared with the time women have been doing it. "At the bottom of many cases of temporary or permanent baldness . . . are emotional disturbances, such as worry, fright, shock and nervous exhaustion. . . . Dissipation, indirectly, can cause baldness and there may be a grain of keen observation in the tradition about the bald-headed front row of tired business men" (p. 23). Who knows the facts on which such positive statements are made? And what of this pathology? "Emotional disturbances affect the nerves. When the nerves are injured or diseased, the blood supply is deranged. The hair suffers. . . . When these disturbances are long continued, the blood supply is disturbed more permanently and the hair suffers with the rest of the system" (p. 23). The difficulty is that in his general statements about the pathology of baldness, the author apparently makes no distinction between the baldness symptomatic of various diseases and following acute diseases and common baldness—premature senile baldness; so that he makes statements that the lay reader thinks refer to the kind of baldness he knows and is interested in, while as a matter of fact the author's statements, if they apply at all, apply only to special and unusual kinds of baldness and cannot be justified as statements about common baldness at all. If one turns a little farther and gets away from the pathology of baldness, one finds statements like this: "When water is mixed with soap it sets free the alkali, which attacks and saponifies the grease upon which it is rubbed; hence the strength of a soap is determined by the amount of its alkaline contents" (p. 48). The explanation of the action of soaps is nothing of the sort. Water does not decompose soap and set free the alkali. Probably the sole thing that makes soap detergent is the fact that a solution of soap in water is an emulsifying agent; it emulsifies grease and dirt and in that way rids the skin of them. The same thing can be done to a limited extent with an emulsion of tragacanth. If it were free alkali that made soaps useful, the simpler plan would be to wash in a solution of potassium hydroxide and be done with it. These are almost random quotations. Probably two or three times as many inaccurate statements could be picked out in the same pages. Such inaccuracies are of more than academic interest. Lay readers will accept the book as authoritative and follow its teachings—and be none the better for it. The public wants—and perhaps needs—correct information on the subject; but it has already an oversupply of misinformation. This work cannot be called a serious effort to cover the subject or one that represents the actual state of our knowledge—or our ignorance.

THÉRAPEUTIQUE CHIRURGICALE. Par P. Lecène, Professeur à la Faculté de médecine de Paris, et R. Leriche, Professeur à la Faculté de médecine de Strasbourg. Tome III. Abdomen et organes génito-urinaires. Par P. Lecène. Cloth. Price, 50 francs. Pp. 645. Paris: Masson & Cie, 1926.

The author takes up in detail the pathologic types of malformation, injury or disease in each region and organ of the abdomen. He describes briefly the characteristic anatomic, pathologic and clinical features, and then discusses in great detail the indications and contraindications for surgical treatment and the methods available, with their reported final results. Recommendations for surgical treatment are based largely on the experience of the author, but he reviews some of the literature on each subject and gives the references. He considers the surgical affections of the abdominal wall, the peritoneum, the stomach, the duodenum, the intestines, the liver, the bile ducts, the pancreas, the spleen, and the genito-urinary tract of the male and the female. The details of surgical technic are not considered, but the surgical methods are discussed. The absence of illustrations is not a serious defect, since the volume is not meant to replace, but to supplement, works on operative surgery, pathology and anatomy. The book is valuable because it reflects the experience and judgment of the author, giving, along with his opinions, the present generally accepted treatment of abdominal disorders.

A TEXT-BOOK OF PHARMACEUTICAL CHEMISTRY. By Arthur Owen Bentley, Ph.C., Director of the Department of Pharmacy, University College, Nottingham, and John Edmund Driver, M.Sc., A.I.C., Lecturer in Chemistry, University College, Nottingham. Cloth. Price, $6. Pp. 456. New York: Oxford University Press, 1925.

This book is primarily written for those studying for the Pharmaceutical Society's diploma and degrees in pharmacy, and contains the pharmaceutic and organic chemistry—both theoretical and practical—necessary for the chemist and druggist qualifying examination. The book is divided into two parts, inorganic and organic. The former includes a description of the nonmetallic substances of the British Pharmacopeia, with tests for impurities and detailed methods of analysis described in the British Pharmacopeia. Part II comprises the organic, describing methods of detection, ultimate analysis of the elements and a concise general survey of the subject, including a description of the organic substances of the British Pharmacopeia. The appendix contains useful schemes for the identification of the more common inorganic and organic compounds. Provided the text is used as the authors intend, that is, only by those who have com-

pleted a course in systematic chemistry, it may serve a useful purpose, although it is of little value to those studying pharmacy in the United States, as it does not include the U. S. Pharmacopeia X.

EVOLUTION, GENETICS AND EUGENICS. By Horatio Hackett Newman, Professor of Zoology in the University of Chicago. Cloth. Price, $3.50. Pp. 639, with 99 illustrations. Chicago: University of Chicago Press, 1925.

The first edition of this book appeared in 1921. So great was its success that it passed through six printings and demanded a second edition, which is represented by the present volume. It is actually an encyclopedia on the present status of our knowledge of evolution culled from many sources. It includes even a brief chapter on the Scopes trial and the present questioning of our knowledge and beliefs in this field. For the student of biology or the general reader it is perhaps the most valuable volume on the subject. A glossary and a good bibliography supplement the text.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits.

THE CLINICAL INTERPRETATION OF THE WASSERMANN REACTION. By Dr. Robert A. Kilduffe, A.B., A.M., M.D., Director Laboratories, Atlantic City Hospital. Cloth. Price, $2.50. Pp. 203, with charts. Philadelphia: Lea & Febiger, 1926.

Monograph with survey of literature and details of technic.

CONTRIBUTIONS TO OPHTHALMIC SCIENCE. Dedicated to Dr. Edward Jackson in Honor of his Seventieth Birthday, March 30, 1926. By his Pupils and Colleagues in the United States. Cloth. Pp. 319, with illustrations. Menasha, Wisconsin: George Banta Publishing Company, 1926.

Festschrift for an American pioneer in opthalmology.

SIR WILLIAM OSLER. Memorial Number. Appreciations and Reminiscences. Bulletin No. IX of the International Association of Medical Museums and Journal of Technical Methods. Cloth. Privately issued. Pp. 632, with illustrations. Montreal, 1926.

Collection of many personal and historical Osleriana.

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., LL.D., F.R.S., Professor of Diseases of the Skin, University of Kansas School of Medicine. Sixth edition. Cloth. Price, $12. Pp. 1303, with 1158 illustrations. St. Louis: The C. V. Mosby Company, 1926.

Up-to-date edition of well established textbook.

DIATHERMY: With Special Reference to Pneumonia. By Dr. Harry E. Stewart, Director, New Haven School of Physiotherapy. Second edition. Cloth. Price, $3. Pp. 228, with 45 illustrations. New York: Paul B. Hoeber, Inc., 1926.

Enthusiastic monograph on this method.

PLANNING A TUBERCULOSIS SANATORIUM. By T. B. Kidner. Technical Series No. 6. Paper. Pp. 36, with illustrations. New York: National Tuberculosis Association, 1926.

Authoritative practical pamphlet prepared under auspices of national association.

THE TECHNIC OF ORAL RADIOGRAPHY. By Clarence O. Simpson, M.D., D.D.S., F.A.C.D. Cloth. Price, $5. Pp. 207, with 165 illustrations. St. Louis: The C. V. Mosby Company, 1926.

All the details for securing good roentgenograms of the teeth.

BERNHARD HEINE'S VERSUCHE ÜBER KNOCHENREGENERATION. Sein Leben und seine Zeit. Von der deutschen Gesellschaft für Chirurgie, anlässlich ihrer 50. Tagung den Fachgenossen unterbreitet. Herausgegeben von der anatomischen Anstalt der Universität Wurzburg. Mit einem Vorwort von Professor Dr. A. Bier. Paper. Price, 7,50 marks. Pp. 224, with 106 illustrations. Berlin: Julius Springer, 1926.

DIE CHIRURGIE: Eine zusammenfassende Darstellung der allegemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner und Prof. Dr. O. Nordmann. Lieferung 8. IV. Band. Die Chirurgie des Ohres. Von Prof. Dr. A. Blohmke. Paper. Price, 16 marks. Pp. 359-636, with 182 illustrations. Berlin: Urban & Schwarzenberg, 1926.

OVER AETIOLOGIE, DIAGNOSTIEK EN THERAPIE VAN CHRONISCH RHEUMATISCHE AANDOENINGEN. Door J. van Breemen, Geneesheer-Directeur van het Instituut voor physische Therapie te Amsterdam. Paper. Pp. 246. Rotterdam: W. L. & J. Brusse, 1926.

Medicolegal

Treatment of Fracture—Failure to Use Roentgen Rays

(Wright v. Conway (Wyo.), 241 Pac. R. 369)

The Supreme Court of Wyoming, in affirming a judgment on a verdict directed for the defendant physician, says that he was employed to treat a fracture of the femur of the plaintiff's right leg, the fracture being a simple and transverse one at or a little above the junction of the lower and middle third of the femur. The method of treatment adopted was that of Buck's extension. The court finds negligence on the part of a physician sometimes defined, generally, as consisting in his doing something that he should not have done, or in omitting to do something that he should have done. The negligence must appear from expert testimony, and that it caused the condition complained of, unless relating to a matter of common knowledge. Neither failure to possess or use ordinary skill, nor that the result complained of was brought about thereby, should be supported merely by theory, conjecture or inference, but should be based on tangible, substantial evidence which the court and jury may grasp and understand.

That the defendant ascertained and diagnosed correctly the nature of the injury was beyond controversy; all the evidence showed it. There was an attempt to show that the extension may have been improperly applied on the theory that the defendant erred as to the location of the fracture; but the evidence fell far short of that, and the court cannot well understand how he could have correctly ascertained the nature without at the same time discovering the location of the fracture. Having correctly ascertained the location and nature of the fracture, a roentgenogram for that purpose was unnecessary. Failure to secure a union during the period of the defendant's treatment (which was less than five weeks), or even longer, had it been continued, would not, alone, establish negligence, or even be a ground for an inference thereof, since a successful result is not guaranteed, and the general rule is that an unsuccessful result does not, alone, establish negligence or justify an inference thereof.

Unless negligence consisted in the failure to use the roentgen ray within a few days after the initial treatment and occasionally thereafter during the first four weeks, and especially on the appearance of a knot underneath the leg, which, according to one physician's testimony, may have indicated malapposition of the bones, there was no evidence of negligence in the defendant's diagnosis and treatment. But it was not alleged, nor did it appear in the evidence, that a roentgen-ray machine was available at any time prior to the use of one when the leg was found to be swollen, about four weeks after the application of the extension. The expert witness apparently assumed that one was available at all times mentioned in his testimony, or else intended to say that it should be used whether available or not. But the law does not exact the impossible of the medical practitioner. In the court's investigation it found no case wherein the failure to use the roentgen ray was held to be negligence, where it did not directly appear that such an instrument was available, or there was no suggestion to the contrary. Negligence being charged in the defendant's failure to bring to his aid this comparatively new apparatus, which the court does not understand is yet recognized as a necessary or usual part of the equipment of a general medical practitioner's office, at least in the ordinary community, the court thinks it was the plaintiff's duty, under the rule of the burden of proof in malpractice cases, to show by his evidence that such a machine or apparatus was available for the defendant's use, or might at least have been easily procured. That ought not to have been difficult if such an instrument was available. Certainly, if one was at the hospital, that might easily have been shown, or if in the office of any other practitioner in the city. Moreover, failure to use roentgen rays, even though available, was not necessarily negligence.

Negligence was alleged in burning the flesh by the careless application of hot irons or bottles; but it did not appear that

the defendant did anything more than to suggest or prescribe the hot applications. It was not shown that he applied them, or that he was present when they were applied. If applied by a nurse at the hospital, there was nothing to show that her relation to the defendant was such as to make him responsible for that action. She might have been employed by the plaintiff. Without further showing than that found in this case, the defendant would not be liable for the burns or blisters resulting from such hot applications.

Testes Are "Members"—on Presumption of Sanity

(People v. Saylor et al. (Ill.), 149 N. E. R. 767)

The Supreme Court of Illinois holds that castration is within the terms of the Illinois statute which is directed against the removal or disabling of any limb or member of any person with the malicious intent to maim or disfigure him. There can be no question that the testes are members of a man, and that their removal maims and disfigures him. Mayhem by castration seems always to have been a felony at common law.

An instruction which began by telling the jury that every person accused of crime is presumed to be sane until the contrary is shown was erroneous. The law does not presume every person accused of crime to be sane until the contrary is shown. The only effect of the presumption of sanity is to require the introduction of evidence tending to prove insanity. When that is done, the presumption no longer prevails. It does not continue until the contrary is shown. The question of sanity or insanity is then to be determined from the whole evidence, without any reference to the presumption. The rule, as stated in the instruction, in effect imposed the burden of proof on the defendant. It is not essential that insanity should be shown. All that is required of the defendant is evidence sufficient to raise a reasonable doubt of sanity. The presumption of sanity cannot be considered by the jury in determining whether the defendant is sane or insane. Whenever evidence is introduced tending to show that the accused was insane at the time of committing the act charged as a crime, the burden devolves on the state to prove beyond a reasonable doubt, regardless of the presumption, that at the time of the commission of the act the accused was sane.

Validity of Law Relative to Drugless Healers

(People v. Lewis (Mich.), 206 N. W. R. 553)

The Supreme Court of Michigan, in affirming a judgment of conviction of the defendant of the crime of practicing medicine without a certificate of registration or license, says that he was a graduate of a school of chiropractic and contended that the medical practice act, requiring registration and fixing qualifications of all persons practicing medicine is unconstitutional, unreasonable, arbitrary, and violates the fourteenth amendment to the federal constitution. It was insisted that the statute operates to prohibit chiropractors from obtaining a license, because it requires them to pass an examination before a medical board in subjects which no school of chiropractic teaches, and which are not used by them in the practice of their profession. The court takes it that the defendant desires to practice a system of treatment of human ailments or diseases without the use of drugs. If so, is it unreasonable to require him to pass an examination before a board of qualified experts in the subjects of anatomy, histology, embryology, physiology, chemistry, bacteriology, pathology, diagnosis, hygiene and public health?

It is within legislative power to require persons practicing treatment of human ailments or diseases without the use of drugs to possess knowledge of organic structure, intimate structure of tissues, embryonic evolution, functions of the body, molecular and atomic structure of bodies, microorganisms, science of diseases, morbid processes observable in various diseases of organs, recognition of disease by its symptoms, science of health, and efforts made and measures and precautions deemed advisable for the promotion and protection of public health. This power has been exercised, and the regulation provided must stand, unless violative of rights guaranteed by the state or the federal constitution. The court finds no limitation on the subject in the state constitution, and it can conceive of no deprivation of the equal protection of the law in requiring drugless healers to understand the subjects mentioned. The fact that the defendant had not received instruction in some of these subjects offered no objection to the validity of the law. This court declines to indict the medical profession of design to annihilate the system of chiropractic adjustment and the legislature of supinely surrendering the lawmaking power in aid thereof. It may be that no chiropractic school teaches all the subjects mentioned, and chiropractors feel that a knowledge thereof is unnecessary and unused in their school of practice, but this affords no reason for requiring the legislature, in recognition thereof, to enact no law not in conformity therewith.

While the court thinks that all questions presented fall within the opinions of this court in *Locke* v. *Circuit Judge*, 184 Mich. 535, 151 N. W. 623, and *People* v. *Rose*, 218 Mich. 642, 188 N. W. 417, it has examined the points anew, and finds the great weight of authority against every contention advanced. The cases cited by the defendant were clearly distinguishable from, or so contrary to, the former decisions of this court and the overwhelming weight of authority as to render review thereof unnecessary.

No school may fix a standard of education, and thereby entitle its graduates to practice any branch of the healing arts, regardless of legislation, and no graduate can of right demand that legislation accord with what he has been taught. The law recognizes chiropractic adjustments or treatments, and fixes the standard of knowledge deemed essential to a proper practice thereof. The legislature took a comprehensive view of the public welfare in regulating the practice of medicine. What this court has said is not in disparagement of drugless healing. The court decides only the legal questions presented, and leaves the policy of the law, within legitimate limits, to the legislative power.

Testimony Not Deemed Expert—Characteristics of Age

(In re Cooper's Estate (Iowa), 206 N. W. R. 95)

The Supreme Court of Iowa, in holding that a motion to direct a verdict for the proponents of the will contested in this case was rightfully sustained, says that a physician testified that at one time he was called to attend the testator for some physical ailment. Aside from that he never made any examination of him, nor any observation to determine his mental condition. He saw him and observed him as he saw and observed other people, on the street or in his business, but he did not claim that he gave any special attention to the testator as to his mental condition. He described largely his physical condition. He was also asked whether in his opinion the testator was of sound or unsound mind. The testimony of this physician was offered in the case, and it appeared that he would have answered, if permitted, that the testator, during his later years, became childish and appeared to be senile; that the witness thought there was mental decay. As to the condition of the testator's mind, the physician said, "I wouldn't consider it sound." Under this record, the supreme court does not feel that the testimony of the physician rose to the dignity of expert testimony.

There was no showing that the testator was afflicted with the diseases incident to advancing years, excepting that the physician said that he saw evidences of senility. There was no contention that the testator's talk was irrational or that his thoughts were disconnected. He was probably peevish, childish, and made himself obnoxious by continually repeating the stories of his early life. But all these matters go with advancing years, and are not unexpected when it is considered that this man was 76 years of age when he made the first will, and 82 when the codicil was made. There was nothing in the record to show that he was so lacking in mental capacity as to be unable intelligently to remember and identify the property he possessed and the natural objects of his bounty, and intelligently to dispose of it. This is the ultimate measure of the mental capacity that the law requires of a testator. Will contests must turn largely on the facts incident to each case, and it is difficult to lay down a rule in such matters.

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, Hot Springs, Va., June 14-16. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.
Associated Anesthetists of the United States and Canada, Nottingham, England, July 20-23. Dr. F. H. McMechan, Avon Lake, Ohio, Sec'y.
Montana, Medical Association of, Billings, July 16-17. Dr. E. G. Balsam, 222 Hart-Albin Building, Billings, Secretary.
New Jersey, Medical Society of, Atlantic City, June 17-19. Dr. J. B. Morrison, 97 Halsey Street, Newark, Secretary.
North Carolina, Medical Society of the State of, Wrightsville Beach, June 15-17. Dr. L. B. McBrayer, Southern Pines, Secretary.
Oklahoma State Medical Association, Oklahoma City, June 22-24. Dr. C. A. Thompson, 609 Barnes Building, Muskogee, Secretary.
Wyoming State Medical Society, Lander, July 12-13. Dr. Earl Whedon, Sheridan, Secretary.

ASSOCIATION OF AMERICAN PHYSICIANS

Forty-First Annual Meeting, held at Atlantic City, N. J., May 4-5, 1926

(Continued from page 1794)

Experimental Production of Meningocerebral Tolerance in Acute and Subacute Lead Poisoning

DR. C. V. WELLER, Washington, D. C.: There is a general feeling that there is no such thing as an acquired immunity to lead poisoning, but there is evidence among the older writers that those exposed to lead, who develop convulsions early, do not develop poisoning later, when given the same exposure, although there may be exacerbations of poisoning with other minerals. In uranium nephritis, the body seems also to gain a certain tolerance to heavy mineral poisoning. We have chosen the guinea-pig as an experimental animal, as it shows clearly the convulsive manifestations indicating cerebral injury. The dosage is given by mouth in capsules, and the size of the dose makes no difference if it is given regularly. The nervous system reactions are shown by tonic and clonic contractions. Necropsy shows congestion and edema of the cortical cells. When the animals are given a rest from the poison and then exposed again later, we find that their resistance is increased to a marked degree to a much larger dosage. We have also noted this type of resistance in individuals who have been exposed to metallic poisoning.

DISCUSSION

DR. W. E. DIXON, Oxford, England: Dr. Weller has shown conclusively that there is a tolerance to lead poisoning produced under these conditions. If the tolerance is of the nature that he assumes it to be, it is obviously of great importance; but is he sure that the tolerance is not due to the fact that the lead was not absorbed?

DR. W. F. HAMILTON, Montreal: Did Dr. Weller note any difference in the reactions in the different sexes, in connection with industrial lead poisoning cases?

DR. C. V. WELLER, Washington, D. C.: I have no evidence on the excreta or the tissues of killed animals. I think the lack of absorption is part of the mechanism. That would give an explanation as to the nature of the immunity; that is, the formation of some mechanism by which absorption does not occur. It is difficult to say why that should persist for one year. Another series of animals showed that in the beginning the reactions were the same. I think there must be vascular changes in the gastro-intestinal tract which would interfere with absorption. I have saved the lives of a number of animals by applying artificial respiration when convulsions occurred, because the clonic convulsions lead to asphyxia. The convulsions are so severe that the animals injure themselves. In the guinea-pig there are no true palsies, although there is incoordination following the convulsions. I have not noted any difference in the sex incidence.

Effect of Intravenous Administration of Quinidine and Other Drugs on the Mechanism of the Heart Beat

DR. FRANK N. WILSON, Ann Arbor, Mich.: I do not advocate the indiscriminate use of intravenous medication in heart disease. I believe that drugs can be given by mouth with less expense and trouble and with less danger. Nevertheless, intravenous medication has its advantages. I have given such drugs as quinidine, digitalis, pilocarpine and atropine intravenously. Quinidine has been given intravenously with very few reactions; sometimes there is slight blurring, confusion, a feeling of warmth, slight headache and nausea, but rarely vomiting. One patient died after a second dose. His was a case of advanced myocardial disease. Digitalis and ouabain differ from other drugs in that they penetrate the cells, but effect was obtained five minutes after injection. In paroxysmal tachycardia, digitalis given intravenously acts in a striking manner in lowering the ventricular rhythm and stopping the attack. With quinidine, if there is no reaction within seven minutes, there will be no reaction at all. Five out of thirty patients were benefited by quinidine intravenously.

DISCUSSION

DR. G. C. ROBINSON, Nashville, Tenn.: I was interested that the intravenous injection of ouabain continued to be effective, but the maximal effect was not for several hours. The effect of large doses of digitalis by mouth is about the same as with ouabain intravenously. The intravenous injection of digitalis continues to be effective and is a gradual process.

DR. LEVIN, Baltimore: Dr. Wilson's observations emphasize a point in regard to quantities, as to the margin of safety between a toxic and a therapeutic dose. This is small when the drug is given intravenously and is in the active circulation. Even when the drug is given by mouth, there is some evidence of poisoning in some patients. With more careful selection of cases we have limited the number of persons who receive this drug, and the percentage of successes is higher. With regard to the transition from fibrillation to normal rhythm, we found that in one instance, when the drug was given by mouth, the rhythm went back to normal with prompt resumption of auricular activity. I should like to ask whether in cases successfully treated by the intravenous method Dr. Wilson had tried giving the drug by mouth first in order to compare results with the slower medication.

DR. FRANK N. WILSON, Ann Arbor, Mich.: In regard to Dr. Levin's question, we do not give any patients quinidine by mouth or subcutaneously. We give the drug intravenously. The intravenous dose is really no more than half the dose by mouth. I do not know whether it is safe to go higher with intravenous dosage, although we had only one bad result, in a patient with advanced subacute bacterial endocarditis.

Observations on Patients with Pernicious Anemia, Partaking of a Special Diet

CLINICAL ASPECTS

DRS. GEORGE R. MINOT and WILLIAM P. MURPHY, Boston: The dietetic treatment of pernicious anemia may be of more importance than has been generally recognized. Forty-five patients with pernicious anemia have continued to take a diet for from six weeks to two years, composed especially of foods rich in complete proteins and iron—particularly liver (from 120 to 240 Gm. a day). The diet also contains for each day at least 120 Gm. of muscle meat and an abundance of fresh vegetables and fruits, a normal amount of starch foods, and is relatively low in fat. Following the diet, all the patients showed a prompt, rapid and distinct remission of their anemia, coincident with at least rather marked symptomatic improvement, except for disorders due to spinal cord degeneration. Improvement was often striking, so that when the red blood cell count averaged for all, before starting the diet, 1,470,000 per cubic millimeter, one month afterward it averaged 3,400,000; and for the twenty-seven cases observed from four to six months after the diet was begun, the average count was 4,500,000. Patients having had two or more relapses showed on the average slightly lower red blood corpuscle counts about one and two months after commencing the diet than did those who had started it in their first or second relapse. Data are not yet available to indicate whether the remissions will last any longer than in other cases, because most of the patients have taken the diet for less than seven months. All the patients have remained to date in a good state of health

except three, who discontinued their diet. Two of these rapidly improved on resuming it, while the other has only just begun to take the liver again.

PHYSIOLOGIC ASPECTS

DRS. REGINALD FITZ, WILLIAM P. MURPHY and ROBERT D. MONROE, Boston: Special studies concerning changes that have occurred in the blood following the beginning of the dietary regimen have been carried out in eleven of the forty-five cases. Within a few days after starting the diet, there occurred in the eleven cases and also in five others a temporary greater output of young red blood cells from the marrow, lasting about ten days, as indicated by an increase of the reticulocytes in the peripheral blood from usually less than about 1 per cent to an average of about 8 per cent. The peak of their rise occurred in from four to ten days. This early manifestation of improvement in blood formation was accompanied by a decrease of the bile pigments in the blood serum. The icterus index began to drop quite promptly after the diet was begun, generally reaching normal or below in from two to three weeks. The corpuscular protein content increased in a fashion closely parallel to the increasing hemoglobin concentration, while the plasma protein nitrogen readings remained nearly constant. The nonprotein nitrogen of the blood was not affected during the patients' improvement. As in other pernicious anemia cases regenerating blood, coincident with the rise in hemoglobin percentage and red blood cell count, there occurred a steady rise in the corpuscular volume. This was demonstrated by measurements of the blood and plasma volume by the congo red method, which showed that although the total volume increased but slightly, the volume of corpuscles often was trebled in a period of a few weeks, from which it may be interpreted that a marked growth of blood tissue was observed.

DISCUSSION

DR. W. S. THAYER, Baltimore: How long were these cases observed on an average, and how long was the longest case observed without remission?

DR. A. S. WARTHIN, Ann Arbor, Mich.: In 1895 a woman suffering from pernicious anemia was being treated by leading clinicians. She died thirty years afterward. For many years she lived on one apple a day and two or three bowls of weak coffee. At 76 she became senile and developed a huge appetite for meat. The picture of pernicious anemia disappeared, and she lived to the age of 86. Another woman who had pernicious anemia for twenty years ate nothing but lettuce. She had cord symptoms. She made a great change in diet and the pernicious anemia disappeared, but the cord symptoms remained and she was killed by a dose of arsphenamine. I believe there is a distinct relation between pernicious anemia and faulty diet.

DR. F. M. ALLEN, Morristown, N. J.: I have had patients with pernicious anemia who showed marked edema. They were put on a salt free diet, which improved the blood picture and the clinical symptoms. In general, improvement has been the same as in Dr. Minot's series. We considered that pernicious anemia was a metabolic disease due to infection of the blood forming organs, and we removed all foci of infection to give the blood forming organs a chance. We refrained from arsphenamine and from transfusion. I am favorably impressed by Dr. Whipple's work, but I am not sure as to the results of liver. It does not cure pernicious anemia. The blood picture can be recognized even when the blood count is improved. The nerve lesions are the hardest to clear up. In our experience, patients have died while taking liver. We have had patients give almost uniform results. The suspicion occurs to me that we are all alike in refraining from injuring the patient and if they can be spared from what physicians do to them they do better. It is not wise to force the patient to maintain too high a blood count. Transfusions may be used in acute emergencies and we may use arsenic, but not as a routine.

DR. W. M. BOOTHBY, Rochester, Minn.: Was the liver well cooked, moderately cooked, or raw?

DR. REGINALD FITZ, Boston: At the Massachusetts General Hospital we have seen very surprising changes in the blood count, but in one patient who would not eat the liver, there was no improvement.

DR. J. S. MEANS, Boston: There were an unusual number of remissions, much higher than before the diet. Patients did not do so well if they discontinued the diet.

DR. HERMAN O. MOSENTHAL, New York: The problem is this: There is something which destroys the red blood cells and it is our function to allow the body to regenerate the red blood cells faster than the toxic material can destory them. We should especially allow protein to build up the red blood cells; therefore, high feeding is effective. These patients are benefited by a high caloric diet. We have been able to control the number of red blood corpuscles. The nitrogen assimilation in pernicious anemia is different from normal, but feeding of protein will cause assimilation of nitrogen in these cases. In starvation after the war, and in diabetes, high protein feeding causes assimilation of nitrogen and improvement of the condition. Whether liver is the best high protein substance must be determined.

DR. GEORGE R. MINOT, Boston: Two of the patients had the diet two years, and twelve had the diet for over one year, the others less than eight months. In regard to diet playing a rôle: Patients often have been living on an ill balanced diet. In regard to the blood picture always remaining, as Dr. Allen said, I feel that this is always true. I know of two cases in which this is so. Dr. Boothby asked whether the meat was raw. It was well cooked. In regard to Dr. Mosenthal's remark, the changed metabolism is probably related to the amino-acids.

Effect of Ultraviolet Rays on Oxygen Consumption and Total Metabolism

DRS. EDWARD H. MASON, Montreal, and HOWARD H. MASON, New York: We used a quartz mercury vapor lamp without filter; it is not a pure ultraviolet ray. The cases were divided into two groups: first, those with a marked degree of pigmentation; second, those with an increased amount of circulating bilirubin, and therefore not any marked pigmentation. Group 1 showed marked reduction of heat production, pulse rate and metabolic rate. Group 2 showed increase in circulating bilirubin, as in catarrhal jaundice or pernicious anemia. This reaction may be the response of melanin in the skin.

DISCUSSION

DR. ALFRED F. HESS, New York: I should like to ask Dr. Mason whether he tried any effect with visible light because the source he used contained both visible rays and ultraviolet rays. Recent reports have shown increased metabolism; that is not in accord with a disease such as rickets, in which metabolism is slow and where ultraviolet rays are a specific. I have used melanin in suspension. If we added cholesterol and then melanin, the action of the rays could not be intensified, nor could it be done by adding tryptophane. We do not yet understand the relation of melanin to bile pigmentation. Dr. Mason says that he changed the wave lines. In what direction does he change them by a fluorescent substance? I do not think that melanin would change it in the same direction.

DR. GEORGE H. WHIPPLE, Rochester, N. Y.: In regard to the fluorescence of bilirubin, such material as we have studied does not fluoresce. I should like to know on what data Dr. Mason made that statement.

DR. E. H. MASON, Montreal: We have only used the total rays obtained from the mercury quartz vapor lamp. There were no pure filtered rays, and only the visible rays coming from the mercury quartz lamp were used. Clinical observations showed that ultraviolet rays tend to increase metabolism, but I think this is merely a clinical impression. As regards fluorescent substances, my opinion about the change of wave lengths along the path of a fluorescent substance was obtained from Professor Lloyd at McGill. I understood that there is a shift of the wave in the path of the light. He tells me that bilirubin is fluorescent and that the shift of the wave is appreciable. Probably it is shift of the heat wave.

(To be continued)

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

Archives of Internal Medicine, Chicago

37: 453-595 (April) 1926

*Mechanism of Cancer Metastasis. M. T. Burrows, St. Louis.—p. 453.
*Chronic and Acute Arteritis of Pulmonary Artery and of Patent Ductus Arteriosus. K. Schlaepfer, Milwaukee.—p. 473.
*Relationship Between Acromegaly and Diabetes. H. J. John, Cleveland.—p. 489.
Mechanism of Insulin Action. E. F. Mueller, H. J. Wiener and R. v. E. Wiener, New York.—p. 512.
Gastric and Duodenal Ulcer. A. Winkelstein, New York.—p. 541.
*Therapeutic Use of Diets Low in Water and in Mineral Content. N. M. Keith, F. H. Smith and M. Whelan, Rochester, Minn.—p. 550.
Water Metabolism. II. E. Andrews, Chicago.—p. 559.
*Effect of Digitalis on Ventricular Premature Contractions. H. L. Otto and H. Gold, New York.—p. 562.
Pressure on Central Nervous System in Relation to Hyperglycemia: Chronic Piqûre. W. Z. Tychowski and C. Crowell, Philadelphia.—p. 567.

Mechanism of Cancer Metastasis. — Observations are reported on by Burrows from which it is evident that metastases in cancer are not the result of a simple migration of cancer cells from the cancer to distant organs. Metastases are primarily the result of the spread of a liquid substance from the main tumor mass. This substance spreads over surfaces. It is liberated through a digestion of cells in the center of the mass of cancerous tissue. This digestion is not an autolysis resulting from the absence of oxygen, but the result of an excess of the growth stimulating substance, a product of the cell's oxidation. This fluid is rich in growth stimulating substance. It stimulates not only the cancer cells to grow but also the normal cells. The cancer cells already adapted to it respond more quickly. In their growth, they then remove the nutrition and necessary substances from the other cells and destroy them. As to the cause of cancer, these observations suggest that cancer is not the result of any specific substances or group of substances. It is the result of some primary change either in the cell or the tissue which may be induced by any one of a number of widely different substances and conditions.

Arteritis of Pulmonary Artery.—Chronic and acute arteritis of the pulmonary artery and of the patent ductus arteriosus has been observed in nineteen cases. To two of these cases in which no additional valvular lesions were found, a third is added by Schlaepfer. In all nineteen cases, the picture was that of a subacute bacterial endocarditis, with the signs of a patent ductus arteriosus. The seat of the arteritis is undetermined. The anterior wall of the pulmonary artery and the pulmonary orifice of the duct are the places of predilection.

Relationship Between Acromegaly and Diabetes.—Two cases are reported by John in each of which diabetes developed years after the acromegaly was recognized. They illustrate the fact that diabetes associated with acromegaly does not differ materially from diabetes without acromegaly; that the same treatment is applicable to the former as to the latter types of cases of diabetes; that in each, the same results may be expected under proper treatment, and that in each case, if the patient is untreated or is improperly treated, the same increased loss of carbohydrate tolerance, acidosis and coma ensues.

Use of Diets Low in Water and Mineral Content.—Keith and his associates have found carefully controlled diets of low mineral and water content both practicable and effective in the treatment of cases of edema and ascites. The diets may be varied in protein and caloric value, with little increase in mineral or water content. There have been no demonstrable ill effects from the continued use of these diets.

Effect of Digitalis on Ventricular Premature Contractions.—In a case reported by Otto and Gold, digitalis in full doses, given at once, completely abolished spontaneously occurring premature ventricular contractions. Three grains (0.19 Gm.) daily of the powdered leaf, for four days, failed to abolish them. They disappeared after a full dose in the time necessary for practically complete absorption of the drug. The same results were obtained on repetition. After the first full digitalization, seven days were allowed without digitalis for elimination of the drug; the premature contractions began to reappear on the third day. However, when a daily maintenance dose of 3 grains of the leaf was started immediately after the second full digitalization, the premature contractions did not reappear. The persistence of the effect after withdrawal of the digitalis was considerably longer following prolonged digitalization than after a single full dose.

Atlantic Medical Journal, Harrisburg, Pa.

29: 427-506 (April) 1926

*Glandular Treatment of Pituitary Tumors and Hyperplasias. W. Timme, New York.—p. 427.
*Results in Roentgen-Ray Treatment of Early Pituitary Lesions. F. C. Grant, Philadelphia.—p. 430.
*Surgical Management of Pituitary Lesions. C. H. Frazier, Philadelphia.—p. 435.
General Tendencies in Modern Treatment. B. A. Cohoe, Pittsburgh.—p. 439.
Ephedrine and Other Drugs of China. C. F. Schmidt, Philadelphia.—p. 441.
*Treatment of Purpura Hemorrhagica. T. Fitz-Hugh, Jr., Philadelphia.—p. 443.
*Treatment of Secondary Anemia. T. T. Sheppard, Pittsburgh.—p. 444.
Physical Factors of Psychoneurosis. D. J. McCarthy, Philadelphia.—p. 446.
Impetigo Contagiosa. H. G. Wertheimer, Pittsburgh.—p. 451.
Pemphigus Neonatorum Contagiosus. C. Foulkrod, Philadelphia.—p. 454.
Acute Mastoiditis with Complications. J. F. Culp, Harrisburg.—p. 457.
Osteitis Deformans Involving Cranial Bones with Changes in Auditory Apparatus. H. M. Becker, Sunbury.—p. 458.
Lingual Quinsy. G. B. Johson, Franklin.—p. 459.
Foreign Body (Polyp) in Nasal Chamber. F. E. Magee, Oil City.—p. 460.
Removal of Watermelon Seed from Right Bronchus of Child. C. E. Hays, Johnstown.—p. 461.
Complete Unilateral Congenital Bony Atresia of Postnasal Space. P. H. Decker, Williamsport.—p. 461.
Immature Cataract in Myope: Extraction with Loop and Corneal Suture. S. Lewis Ziegler, Philadelphia.—p. 462.
Systemic Infection Following Expression of Tonsils. P. B. Harding, Allentown.—p. 463.
Sarcoma of Antrum. A. S. Kaufman, Philadelphia.—p. 463.
Why Chronic Gonorrhea in Male? P. S. Pelouze, Philadelphia.—p. 464.

Glandular Treatment of Pituitary Hyperplasias. — The therapy applicable to pituitary hyperplasia, Timme says, is specific; namely, the administration of whole gland pituitary substance in very small doses, from 1/10 to 1/4 grain (0.006 to 0.016 Gm.) once or twice daily, at least two hours after meals. Every fourth or fifth day the administration should be omitted. If too much extract is given, the headaches are made worse, or may even be brought on thereby. Should they be accompanied by mild hyperthyroid states, with low grade excitement and irritability, it is an excellent plan to give, in addition to the pituitary extract, hypodermic injections of sodium cacodylate, from 1/4 to 1 1/2 grains (0.04 to 1 Gm.), every alternate day for fifteen or twenty injections. An important point in the treatment is to discontinue the pituitary extract as soon as the premonitory signs of a headache make their appearance, and not begin again until the headache has disappeared. Of the various exciting causes, those which are remedial should be remedied—such as going without food too long, or indulging in too much carbohydrate food. By these simple means, many so-called chronic migrainous attacks of pituitary origin may be reduced to two or three yearly.

Roentgen-Ray Therapy of Pituitary Lesions.—Seven cases of pituitary lesions are presented by Grant as examples of the type of case in which roentgen-ray treatment proved effective in reducing the size of the tumor or checking its growth. Headache was not a prominent symptom in this series. In many of the patients, the condition appeared after the onset of the climacteric, so that it could not be determined whether or not this therapy might have resulted in a return of the menstrual cycle. In every case, the visual fields were enlarged, and the visual acuity increased. As was to be expected, there was no regression in the bony changes about the sella.

Surgical Management of Pituitary Lesions.—Frazier has made it a practice to resort to radiotherapy in all his cases after operation for its prophylactic effect, but without substantial evidence of any beneficial influence, except perhaps that since this practice has been introduced, no patient has returned to the clinic with signs of recurrence.

Treatment of Purpura Hemorrhagica.—The following procedures are recommended by Fitz-Hugh, and in the following chronological sequence for any given case of purpura hemorrhagica: (1) blood transfusions, to be repeated according to indications and effects; (2) massive irradiation of the spleen (this should be repeated unless leukopenia develops, which is a danger signal), and (3), as a somewhat heroic though decidedly promising procedure, splenectomy should be performed.

Treatment of Secondary Anemia.—Sheppard says that the administration of small doses (from 5 to 10 cc.) of whole blood, given intramuscularly every day or every other day, seems to be of decided benefit when other methods have failed. The use of transfusions is of questionable value, except in those cases in which the blood stream has been more or less rapidly depleted by hemorrhage.

Boston Medical and Surgical Journal

194: 613-660 (April 8) 1926

*Origin and Spread of Sacro-Iliac Idea and Its Menace. C. F. Painter, Boston.—p. 613.
*Roentgenograms of Chest in Tuberculosis Suspects. R. T. Monroe and E. S. Emery, Jr., Boston.—p. 619.
*Reexpansion of Lung in Empyema: Mechanical Effects of Carbon Dioxide Inhalation. E. D. Churchill, Boston.—p. 623.
Modern Medical Tendencies. J. A. Rockwell, Boston.—p. 625.
Public Health and Federal Government. J. A. Tobey, Washington, D. C. —p. 629.
Persistently Patent Urachus: Case. W. Van Hook, Chicago.—p. 631.
Case of Erythema Arthriticum Epidemicum. K. Dodd, Boston.—p. 633.

Sacro-Iliac Disease.—Painter asserts that there is an overwhelming body of evidence to the effect that sciatica is a cardinal symptom of sacro-iliac lesions and that it is a perineuritis brought about by the proximity of the radicals making up the main trunk of the sciatic to whatever lesion is affecting the joint. Furthermore, the evidence, which is accumulating and which was, as a matter of fact, among the earliest pieces of evidence in support of the idea that there was a sacro-iliac joint, should tend to give pause in advocating operative measures, other than manipulative, in the treatment of traumatic sacro-iliac lesions.

Roentgenography of Chest.—A series of patients was studied by Monroe and Emery, Jr., to determine the best criteria for requesting roentgen-ray examinations of the chest in cases in which the physical findings or symptoms suggest pulmonary tuberculosis. The results tend to show that films should be taken whenever the symptoms suggest the presence of tuberculosis, and that the physical findings are less reliable guides.

Carbon Dioxide Inhalation in Empyema.—The usual methods employed to promote reexpansion of the lung are discussed by Churchill, and the use of carbon dioxide inhalation for its mechanical effects on the lung and thorax is described. As far as is known, there are no deleterious effects to be expected; in fact, the dizziness and other unpleasant subjective symptoms which are apt to attend too vigorous employment of other respiratory gymnastics do not occur with the use of carbon dioxide. Churchill uses the carbon dioxide inhaler as employed by Henderson in the deetherization of postoperative cases. The tank is left at the bedside of the patient after he has been instructed in its use, and the duration and frequency of the exercise are varied to suit the needs of the individual case. The average ambulatory convalescent patient inhales the gas for five minute periods fifteen or twenty times a day.

California and Western Medicine, San Francisco

24: 433-576 (April) 1926

*Unique and Promising Experiment in Medical Education. W. J. Kerr, San Francisco.—p. 465.
*Surgical Judgment. F. R. Fairchild, Woodland.—p. 471.
*Carcinoma of Kidney. C. F. Rusche, Hollywood.—p. 474.
Eimeria Butkai, N. Sp.; New Coccidian from Man. D. Causey, Princeton, N. J.—p. 477.
Abuse of "Reciprocity." L. E. Mahoney, Santa Monica.—p. 478.
Mesenteric Chylous Cyst. C. G. Levison and M. Wolfsohn, San Francisco.—p. 480.
Edema Following Use of Insulin. D. M. Ervin, San Francisco.—p. 482.
*Laboratory Aids in Diagnosis and Control of Eclampsia. H. A. Stephenson, San Francisco.—p. 484.
*Intestinal Obstruction. E. Butler and G. D. Delprat, San Francisco and Berkeley.—p. 488.
Progress of Treatment for Hypertrophic Stenosis of Pylorus. R. Chaffee, Long Beach.—p. 492.
Radiation Treatment of Superficial Malignancies. A. Soiland and W. E. Costolow, Los Angeles.—p. 494.
*Mongolian Idiocy: Two Cases. H. Dietrich and H. K. Berkley, Los Angeles.—p. 498.
Urethral Caruncle. P. A. Ferrier, Pasadena.—p. 500.

Experiment in Medical Education.—The University of California Medical School has had the cooperation of some of the prominent alumni in the preparation of students for practice. These alumni have, severally, spent a week at the school carrying on, by seminar, lecture and personal contact, instruction in the art and practice of medicine. The experiment has proved of great value to students, interns and faculty alike, and the alumni have expressed themselves as well repaid for the time spent at the school. This year (1925) a further experiment was tried by Kerr during the second half, or the elective period, of the fourth year. Three selected students were apprenticed to alumni in general practice in communities of varying size and assigned for a month each. Another student spent a month in a group clinic in a small town in which there is close cooperation on all cases. Reports from these students give some idea of the value of such contacts for the undergraduate. The students and alumni have expressed themselves favorably on this method of instruction.

Surgical Judgment.—Fairchild asserts that every individual by law made eligible to operate should by law be required to keep records of his cases. These records he should be compelled to submit, on request, to the inspection of some competent constituted authority for review. This would work no hardship and could entail no embarrassment on the competent surgeon. It would strengthen and protect him. It is obvious what the effect on the incompetent and dishonest would be. His exposure would be inevitable and his ultimate downfall a certainty. The profession and the public have a right to know the truth. The factor of individual responsibility properly applied would be conclusive.

Carcinoma of Kidney.—Rusche says that, contrary to the formerly accepted opinion, carcinoma of the kidney is rare before the fifth decade. The mistaking of mixed tumors for carcinomas is responsible for the large number of these growths formerly reported as occurring in extreme youth. Carcinoma develops from the tubular epithelium, or occasionally from the epithelium of the pelvis. In some cases the urinary canals may, to a certain extent, persist, and if dilated, may form large spaces. The much discussed intracellular formations of cancer cells are well seen in these growths. Clinically, the neoplasm may be hard or soft, more often soft; it may become colloid and may form a fungoid vascular mass. It has been found associated with testicular carcinoma and (in the aged) with calculus. In a few cases, the growth has broken through the skin. Metastasis occurs most frequently to the retroperitoneal lymph glands, the lung and the liver. The tendency to produce hematuria is due to the infiltration of the tumors. The earlier metastases occur through the lymphatics; later, when the veins have been invaded, carcinomatous thrombi may be carried by these vessels.

Liver Function Tests in Eclampsia.—In Stephenson's opinion, there is no liver function test now available that is devoid of danger, easy of application, and at the same time reliable. Kidney function tests are better adapted for use in these toxemias. The readings, however, are not constant, and the demonstration of lowered function is more apt to come in cases in which some damage has been done to the vascular system in the kidney or in patients with preexisting nephritis. After the acute toxemia has subsided, they give much valuable information as to the function of the organ, particularly with reference to permanent injury. This information is of great importance in the prognosis for future pregnancies. Examination of the eye grounds should be made

in all cases of acute toxemia. Blood chemical findings may be omitted with the possible exception of the blood urea. Blood pressure readings are important. A gradually increasing pressure, particularly diastolic, usually means an increasing toxemia.

Intestinal Obstruction.—Ninety-three cases of intestinal obstruction in which operation was performed with a mortality of 34.4 per cent were reviewed by Butler and Delprat. There were thirty-four inguinal hernias with obstruction; four umbilical hernias; four ventral postoperative hernias, and nine femoral hernias. All contained portions of the ileum. There were seventeen obstructions due to abdominal adhesions. Ten of this group were due to postoperative adhesions; one was caused by adhesions to the tip of Meckel's diverticulum; two were due to adhesions resulting from acute inflammation of the pelvic organs, and two were due to adhesions about the terminal ileum and cecum. Three obstructions were due to volvulus; one involved the small bowel, and two involved the sigmoid. Carcinoma accounted for eleven—two of the pylorus, one of the jejunum, three of the cecum, two of the descending colon, two of the sigmoid, and one of the rectum. Six enterostomies alone were performed in this group; one patient recovered. Resection of the cecum, followed by immediate anastomosis, was done on two patients; one recovered. Two patients had resections of the pylorus, followed by anastomosis; one recovered. On one patient, gastro-enterostomy for carcinoma of the small bowel was followed by death. In six obstructions, the cause could not be determined, because when the patients came into the hospital they were moribund, and enterostomy alone was performed.

Mongolian Idiocy.—Dietrich and Berkley report two cases, each occurring in one of separate sets of twins. The twin in each case was normal.

Johns Hopkins Hospital Bulletin, Baltimore

38: 255-325 (April) 1926

Defensive Mechanism of Parametrium During Pregnancy and Labor. J. Hofbauer, Baltimore.—p. 255.
*Symptoms of Coronary Occlusion. L. Hamman, Baltimore.—p. 273.
*Arteriosclerosis of Cerebral Vessels; Pathogenesis of Hypertension. J. Bordley, III, and B. M. Baker, Jr., Baltimore.—p. 320.

Symptoms of Coronary Occlusion.—The symptoms of coronary occlusion described by Hamman are the symptoms that develop when a relatively large branch of the coronary arteries is obstructed, and the obstruction is followed by the development of an infarct. The symptoms are grouped as: (1) the immediate symptoms associated with the occlusion, the anginal seizure; (2) the symptoms associated with the myocardial damage, myocardial insufficiency; (3) the symptoms associated with the myocardial infarct, and (4) additional symptoms. It is emphasized that the diagnosis of coronary occlusion has something more than academic interest, since prompt recognition of the accident may promote recovery. Rest is a potent therapeutic measure; strain has a damaging effect. In coronary occlusion, the immediate outcome of the accident may depend on getting the patient promptly at rest, and the degree to which the heart will finally regain its functional capacity may depend on the length of time rest is enforced. Therefore, in some instances the fate of the patient may depend on the recognition of the accident. After the immediate danger is over and alarming symptoms have passed, prolonged rest insures the best possible functional restitution. Every week through which rest can be prolonged will improve the final functional result. To relieve the symptoms of the attack, morphine should be given in large doses. At the same time the patient should be promptly and fully digitalized. If digitalis has not been given previously, the appropriate dose of an efficient preparation should be calculated and administered according to Eggleston's method.

Arteriosclerosis of Cerebral Vessels and Hypertension.—Bordley and Baker are convinced that there is at least an association between persistent hypertension and arteriosclerosis of the vessels supplying the brain stem. As it has long been recognized that arterial hypertension is accompanied by arteriosclerosis in at least some portion of the body, they suggest that a localization of this process in the medulla oblongata may be the essential factor in the production of the persistent high blood pressure, although these changes may be secondary to the hypertension.

Journal of Biological Chemistry, Baltimore

67: 547-804 (March) 1926

Wyss Chemical Method of Assaying Insulin. F. Bischoff, L. C. Maxwell and N. R. Blatherwick, Santa Barbara, Calif.—p. 547.
Influence of Asphyxiation on Blood Constituents of Marine Fishes. F. G. Hall, I. E. Gray and S. Lepkovsky, Madison, Wis.—p. 549.
Comparative Metabolism of Certain Aromatic Acids: Fate of Some Halogen Derivatives of Benzoic Acid in Animal Body. N. J. Novello, S. R. Miriam and C. P. Sherwin, New York.—p. 555.
Lipase Studies: Hydrolysis of Esters of Dicarboxylic Acids by Lipase of Liver. D. A. McGinty and H. B. Lewis, Ann Arbor, Mich.—p. 567.
Study of Molybdic Oxide Colorimetric Method for Estimation of Phosphorus Compounds of Blood. J. H. Roe, O. J. Irish and J. I. Boyd, Washington, D. C.—p. 579.
*Colorimetric Method for Estimation of Blood Calcium. J. H. Roe and B. S. Kahn, Washington, D. C.—p. 585.
*Concentrated Antineuritic Vitamin Prepared from Brewers' Yeast. A. Seidell, Washington, D. C.—p. 593.
Distribution of Some of More Important Amino-Acids in Globulin of Thyroid. H. C. Eckstein, Ann Arbor, Mich.—p. 601.
Crystalline Kombé Strophanthin. W. A. Jacobs and A. Hoffmann, New York.—p. 609.
*Determination of Urea in Folin-Wu Blood Filtrates by Autoclave Method. E. P. Clark and J. B. Collip, Edmonton, Alta.—p. 621.
*Blood Sugar Studies. M. Gilbert, H. Schneider and J. C. Bock, Milwaukee.—p. 629.
Influence of Hydrogen Ion Concentration and of Temperature on Hydrolytic Scission of Casein. D. C. Carpenter, New York.—p. 647.
Bromolecithins of Liver and Egg Yolk. P. A. Levene and I. P. Rolf, New York.—p. 659.
Phosphorus Content of Body in Relation to Age, Growth and Food. H. C. Sherman and E. J. Quinn, New York.—p. 667.
*Relation of Guanidine to Parathyroid Tetany. J. B. Collip and E. P. Clark, Edmonton, Alta.—p. 679.
Inorganic Composition of Blood. S. E. Kerr, Philadelphia.
*I. Effect of Hemorrhage.—p. 689.
II. Changes in Potassium Content of Erythrocytes Under Certain Experimental Conditions.—p. 721.
Clinical Calorimetry: Storage of Glycogen in Exophthalmic Goiter. H. B. Richardson, S. Z. Levine and E. P. Du Bois, New York.—p. 737.
Antiricketic Substances: Catalytic Formation of Antiricketic Cholesterol Derivative. C. E. Bills, Evansville, Ind.—p. 753.
Acetyl Monoses. I and II. P. A. Levene and H. Sobotka, New York.—pp. 759 and 771.

Estimation of Blood Calcium.—A colorimetric method for estimating blood calcium has been developed by Roe and Kahn which is based on the precipitation of calcium as phosphate, and the determination of the latter by the molybdic oxide colorimetric procedure. The method is said to be very accurate and is a successful micro procedure, being adaptable to much smaller quantities of serum than other methods in use at the present time.

Concentrated Antineuritic Vitamin Prepared from Brewers' Yeast.—A relatively simple method for preparing fairly large quantities of a highly active nonhygroscopic vitamin concentrate from brewers' yeast is described by Seidell. The several steps of the method are: removal of the yeast protein by boiling; absorbing the vitamin from the resulting solution by means of fullers' earth; extracting the activated solid with sodium hydroxide; acidifying and concentrating by vacuum distillation; removing the sodium as sodium sulphate and the nonactive organic material by means of methyl alcohol; finally, converting the active viscous residue to a nonhygroscopic dry powder by treatment with strong ethyl alcohol.

Determination of Urea by Autoclave Method.—A combination of the autoclave method of Folin and Wu for converting urea into ammonia, and the estimation of the ammonia thus formed by the technic of Pregl and the apparatus of Parnas and Wagner, are utilized by Clark and Collip in developing an accurate chemical system for the determination of urea in Folin-Wu blood filtrates. An electrically controlled modification of the Parnas-Wagner micro Kjeldahl apparatus is given.

Blood Sugar Studies.—Postprandial hyperglycemia was studied by Gilbert, Schneider and Bock on normal individuals. From fifteen to twenty-two blood samples were taken within a three hour period. The blood sugar time curves show wide fluctuations, and in many cases a secondary rise before a definite return to the fasting level.

Guanidine Theory of Parathyroid Tetany.—The urea and nonprotein nitrogen curves of untreated parathyroidectomized dogs have been determined by Collip and Clark. Similar curves have been obtained following the injection of certain guanidine compounds. The results obtained are opposed to the guanidine theory of parathyroid tetany.

Effect of Hemorrhage on Blood.—The effects of hemorrhage on the inorganic composition of serum and corpuscles have been studied by Kerr. A single hemorrhage, amounting to from one third to one half of the total blood volume results in a slight decrease in both sodium and chloride of serum, and no significant change in corpuscles. Repeated severe hemorrhage produces a greater fall of sodium and chloride of serum, and an increase in the inorganic phosphate. No changes in the potassium, calcium or magnesium of serum were observed. A large increase in the potassium concentration of the corpuscles occurred.

Journal of Laboratory and Clinical Medicine, St. Louis

11: 601-706 (April) 1926

*Bacteriology of Urine in Cooperation with Catheterization of Ureters. R. A. Keilty, Danville, Pa.—p. 601.
Studies in Embalming Fluids in Relation to Necropsies. J. A. Kolmer and F. Boerner, Philadelphia.—p. 608.
*Sedimentation Rate of Erythrocytes. H. N. Cooper, Watertown, N. Y. —p. 615.
Suggested Method to Be Followed in Developing Standard Course for Medical Technicians. W. E. King, Detroit.—p. 623.
Field Observations in Scarlet Fever. F. M. Huntoon, J. A. Murphy and S. H. Craig, Glenolden, Pa.—p. 630.
*Biochemic Affinity of Various Metals and Metalloids for Bacteria and Organic Tissues. J. F. Schamberg and H. Brown, Philadelphia.—p. 636.
University of Maryland Chronograph. O. G. Harne, Baltimore.—p. 641.
Physiologic Effects of Electro-Ionic Administration of Epinephrine. C. S. Smith and J. B. Brown, Columbus, Ohio.—p. 657.
Apparatus for Electro-Ionic Administration of Epinephrine. J. B. Brown and C. P. Effler, Columbus, Ohio.—p. 662.
Method for Study of Variations in Volume of Organs in Intact Animal. E. H. Hargis, Rochester, Minn.—p. 664.
*Comparative Study of Liver Functional Tests. A. I. Rubenstone and L. Tuft, Philadelphia.—p. 671.
Simple Combination Distillation and Aeration Apparatus for Micro-Estimation of Nitrogen. R. F. McCracken, E. Passamaneck and K. E. Harman, Richmond, Va.—p. 678.
Acetone Methylene Blue—Methylene Azur Eosin Solution for Staining Blood Smears. F. Proescher and A. S. Arkush, Agnew, Calif.—p. 682.
*Simplified Medium for Cultivation of Endameba Dysenteriae. C. A. Kofoid and E. H. Wagener, Berkeley, Calif.—p. 683.

Laboratory Study of Urine.—The report is made by Keilty of the laboratory studies of urine from 162 patients examined by cystoscopy and ureteral catheterization. While he does not advocate the routine use of the cystoscope and ureteral catheter as one might a vaginal examination or the proctoscope, Keilty is sure that its more frequent use when the urine is studied bacterially would clear up an otherwise obscure diagnosis; it would eliminate the kidney or bladder as offenders, or would accurately clinch a diagnosis strongly suggested clinically.

Sedimentation of Erythrocytes. — Cooper asserts that increased rate in sedimentation of the erythrocytes occurs in diseases attended by tissue degeneration and destruction. Principally this included: (1) acute inflammations; (2) pregnancy, (3) tuberculosis, and (4) malignancy. The curve during the first hour, and the final cell volume, offer prognostic value. The cause of the increased rate is associated with a hypercholesterolemia as well as an increase in globulin and fibrinogen in the blood.

Biochemical Affinity of Metals.—Schamberg and Brown have not been able to demonstrate, in vitro, any specific affinity of metallic and metalloid elements for organic tissues or for germs. Although no selectivity could be demonstrated, elements known to be therapeutically active (excepting arsenic) are absorbed by tissues to a marked degree.

Liver Function Tests.—By means of a combination of tests Rubenstone and Tuft were able to carry out the icterus index, blood chemical findings, levulose tolerance and dye tests at one time, and thus gain information concerning the bile pigment excreting functions of the liver and also its carbohydrate and protein metabolic functions. The patient is prepared as for a levulose tolerance; on the same tray the calculated amount of dye contained in a syringe is also prepared. Blood is then withdrawn into two tubes, one citrated or oxalated, and one a plain tube. Enough blood is withdrawn to suffice for all these tests. Through the same needle the calculated amount of dye is injected. Immediately following this the patient is instructed to drink the levulose solution. Blood is then withdrawn from the vein of the opposite arm at thirty minutes, one hour, two hours and, if necessary, three hours after the injection, the blood being again drawn into plain and oxalated tubes as indicated. The blood is allowed to clot, is centrifugalized, and the serum is pipetted off. The serum collected before the injection is then used for the icterus index determination and also as the standard for the dye test. As a rule, from 2 to 3 cc. of serum is sufficient for this purpose. The oxalated blood collected before injection is used for the urea nitrogen, nonprotein nitrogen, and sugar determination. Blood sugar tests are made on all the bloods (oxalated) taken subsequent to injection, and the serums are used to determine the dye retention, as described in the Rosenthal method.

Culture Medium for Endameba Dysenteriae.—The most satisfactory medium for cultivating *Endameba dysenteriae* Kofoid and Wagener found to be the coagulated egg slant covered with 10 cc. Locke's solution, containing 0.5 per cent of defibrinated rabbit blood. This medium is less favorable to the bacteria, which are found with the ameba cultures and quickly lower the p_H, than either Boeck's egg-Locke-serum medium or his egg-Locke-albumin medium. It is also simple to prepare, as fresh sterile rabbit blood can be easily obtained. On this rabbit blood medium the endameba multiply rapidly and are frequently found ingesting rabbit erythrocytes. It is necessary to transplant the cultures every forty-eight hours in order to keep them going continuously.

Maine Medical Association Journal, Portland

17: 63-82 (April) 1926

Maine's Team Work for Health. W. D. Thurber.—p. 63.
Diagnosis of Acute Appendicitis. P. E. Gilbert, Madison.—p. 70.

Medical Journal and Record, New York

123: 413-484 (April 7) 1926

Future of Biologic Investigation. H. B. Williams, New York.—p. 413.
Causal Parasites of Cancer. J. J. Clarke, London.—p. 415.
Plastic Surgery of Nose. A. G. Bettman, Portland, Ore.—p. 417.
Diagnosis of Engagement in Vertex Presentations. M. Rosensohn, New York.—p. 421.
Parenteral Ferments at Service of Immunity from Viewpoint of Evolution. F. Herb, Chicago.—p. 422.
Endemic Influenza. C. G. Field, Sierra Madre, Calif.—p. 425.
Renal Calculi. A. Strachstein, New York.—p. 426.
Control of Leukocytes. B. Ferguson, Birmingham, Ala.—p. 430.
Trichophytosis of Glabrous Skin. M. Scholtz, Los Angeles.—p. 432.
Coffee and Tea Drinking Among Children. R. R. Irvin, Pittsburgh.—p. 434.
Oral Method of Cholecystography with Tetraiodophenolphthalein. V. Knapp, New York.—p. 437.
Technic of Urography. S. R. Woodruff, Jersey City.—p. 440.
Adhesions of Large Intestine. D. Reid, Cambridge, England.—p. 441.
Intraperitoneal Adhesions. D. H. Bessesen, Minneapolis.—p. 443.
Popular Fallacies Concerning Hemorrhoids. J. F. Montague, New York. —p. 445.
Gallbladder Surgery. G. P. Muller, Philadelphia.—p. 446.
Gastrojejunostomy and Gastric Carcinoma. H. C. Reynolds and S. W. Johnsen, Passaic, N. J.—p. 451.
Acute Postoperative Dilatation of Stomach. A. J. Parker, Brooklyn.—p. 452.
Case of Intestinal Hemorrhage in Pneumococcal Infection. J. Chatard, Bordeaux, France.—p. 453.
Traumatic Rupture of Spleen. H. Koster, Brooklyn.—p. 455.
Ancient and Modern Medical Heresies. II. Chiropractic in Ancient Professions. J. Wright, Pleasantville, N. Y.—p. 457.
Medicine According to Talmud. S. R. Kagan, Springfield, Mass.—p. 459.
Historical Analysis of Laënnec's Scientific Work. C. G. Cumston, Geneva, Switzerland.—p. 461.

Southern Medical Journal, Birmingham

19: 241-324 (April) 1926

*Necropsy Findings in Diabetes. R. M. Wilder, Rochester, Minn.—p. 241.
Complications of Diabetes. W. S. Geddes, Birmingham.—p. 248.
*Elective Localization of Streptococci. R. L. Haden, Kansas City, Mo. —p. 253.
*Irritable Colon. M. L. Graves and G. Graves, Houston, Texas.—p. 260.
Psychoneurosis and Industrial Compensation. A. D. Young, Oklahoma City.—p. 266.
Influence of Posture on Development of Child. T. Toepel, Atlanta, Ga. —p. 267.
Prevention of Dengue. M. D. Levy, Houston, Texas.—p. 270.

*Health Education to Prevent Heart Disease. M. L. Townsend, Raleigh, N. C.—p. 271.
Cancer. C. W. Duval, New Orleans.—p. 276.
Id. M. T. Burrows, St. Louis.—p. 279.
Id. K. M. Lynch, Dallas, Texas.—p. 284.
Id. J. C. Bloodgood, Baltimore.—p. 287.
Id. J. S. Horsley, Richmond, Va.—p. 292.
*Chloride Treatment of Intestinal Obstruction. T. G. Orr and R. L. Haden, Kansas City, Mo.—p. 300.
*Hypertonic Sodium Chloride Solution Intravenously in Treatment of Extensive Superficial Burns. I. A. Bigger, University, Va.—p. 302.
Ureteral Calculi. E. G. Ballenger and O. F. Elder, Atlanta, Ga.—p. 306.
Polycystic Kidney: Four Cases. W. J. Wallace and B. A. Hayes, Oklahoma City.—p. 310.
Retinochoroiditis Juxtapapillaris. W. G. Harrison, Birmingham.—p. 314.
Endothelium of Larynx. C. McDougall, Atlanta, Ga.—p. 317.

Necropsy Findings in Diabetes.—An analysis is presented by Wilder of the pathologic conditions found in a group of eighty-one fatal cases of diabetes. Diabetes was solely and directly responsible for death in ten cases, death in the remainder being due to degenerative complications or to the consequences of operations. Necropsy was performed in fifty-eight cases. Gallstones were found in sixteen cases and pancreatic stones in three. Sclerosis of the kidneys occurred in fourteen instances, and chronic diffuse nephritis in four. Arteriosclerosis of considerable degree occurred in nearly all the cases, when the age of the patient exceeded 40. Gangrene accounted for fourteen of the eighty-one deaths and was associated with a high degree of coronary sclerosis and myocardial injury in 75 per cent of cases in which the heart was examined at necropsy. A very high incidence of advanced coronary sclerosis was encountered in the series as a whole (seventeen cases), associated, usually, with marked fibrosis of the myocardium. In four cases exophthalmic goiter and diabetes were combined. In two of these, the pancreas showed little or no anatomic abnormality. Hydropic degeneration was not recognized, but marked fatty changes in the islands occurred in eleven cases. In several cases, representing the most severe and intensive instances of diabetes in the series, the pancreatic lesions were trivial. On the other hand, severe pancreatic lesions were frequently found in cases of mild diabetes, in which death was due to degenerative complications. Wilder feels that the explanation of the cause of diabetes must involve considerations, such as heredity of predisposition and ability of cells other than those of the pancreas to elaborate insulin.

Elective Localization of Streptococci.—This experimental study by Haden shows that bacteria from chronic foci, if etiologically related to systemic disease, tend to reproduce in animals the lesion from which the patient suffers. Four groups of cases are reported in which a striking tendency to elective localization is demonstrated.

Irritable Colon.—M. L. and G. Graves assert that there is a large group of cases referred to in the literature as cases of chronic intestinal indigestion, dyspepsia, spastic constipation, hypo-acidity and neurasthenia, which it would be better to class as cases of irritable or disordered colon. These cases are more frequent among slender ptotic types of individuals. The pathologic change is intimately linked with the functional abnormality of the large intestine. The prognosis is good, except where there is an ulcerative process due to a chronic ulcerative colitis, to cancer, or tuberculosis or cases of dysentery, which often are very stubborn and difficult.

Prevention of Heart Disease.—The time to prevent or cure heart disease, Townsend says, is seventeen or more years before death from heart disease occurs. The means and the only means whereby the number of victims will be reduced is to pay conscientious attention to the little child with aching muscles who is accused of having "growing pains," the care of neglected and decayed teeth, the discovery and removal of all foci of infection whether of the tonsils, sinuses, intestines or what not, and repeated careful examinations of the heart, subsequent to attacks of any acute infectious fever, to discover what and how much that injured heart can stand. To accomplish this end, the full cooperation of the people must be secured and the degree of this cooperation will be determined by the degree to which they know the facts. Health education, in Townsend's opinion, is the remedy.

Sodium Chloride Treatment of Intestinal Obstruction.—Whatever the explanation of the chemical changes in the blood and urine may prove to be, Orr and Haden assert that the fact remains that there is a definite therapeutic benefit derived from the administration of sodium chloride in pyloric and intestinal obstructions, which tends to reduce the blood chemical determinations to normal and to prolong life.

Sodium Chloride Solution Intravenously in Extensive Burns.—In a case of very extensive superficial burns reported by Bigger, prompt and continued improvement followed the intravenous injection of 100 cc. of 20 per cent sodium chloride solution.

Texas State Journal of Medicine, Fort Worth

21: 691-758 (April) 1926

Health Relationship of White and Colored Races. O. Dowling, New Orleans.—p. 700.
Development of Public Interest in Malaria Control. J. A. Le Prince, Memphis, Tenn.—p. 703.
Use of Cross Cylinders in Refraction. V. R. Hurst, Longview.—p. 704.
Bronchopulmonary Spirochetosis: Three Cases. H. Freed, San Antonio.—p. 706.
Uncommon Cardiac Arrhythmias. W. E. Nesbit, San Antonio.—p. 710.
*Heart Pain. R. W. Baird, Dallas.—p. 714.
Diabetic Coma. S. H. Kahn, Dallas.—p. 717.
Management of Intra-Abdominal Infections. A. O. Singleton, Galveston.—p. 719.
*Surgical Treatment of Intracranial Hemorrhage in New-Born. W. O. Ott, Fort Worth.—p. 721.
*Ovarian Hemorrhages. F. C. Beall, Fort Worth.—p. 724.

Heart Pain.—Baird has analyzed 100 cases in which the chief complaint was pain around the heart. The pain was caused most often by heart failure or myocardial weakness (forty-two cases); cardiac neurosis and hypertension each caused pain in seventeen cases; angina pectoris in fifteen cases; chronic endocarditis in seven cases and aortitis in two cases.

Intracranial Hemorrhages in New-Born.—Of the six cases reported by Ott, four infants were subjected to subtemporal decompression, one recovered after repeated lumbar punctures, and one required a suboccipital exploration with the opening of the foramina of Majendie and Luschka. Three babies are apparently perfectly well 21, 19 and 1½ months, respectively, after the operation; one recovered following lumbar punctures, and two died, one eight hours after operation, apparently from massive hemorrhage, and the other after living three months and eleven days after operation, this death occurring from a recurrent obstruction of the foramina of Majendie and Luschka. Ott emphasizes the importance of careful observation of new-born babies for development of untoward symptoms, such as respiratory difficulty, blue spells, muscular twitchings and convulsions, and refusal to nurse. New-born babies having such symptoms should be given 10 cc. of the father's blood, subcutaneously, and a lumbar puncture done. If the cerebrospinal fluid is blood tinged, repeated punctures should be performed. If the symptoms do not clear up under this regimen, a decompression operation is indicated.

Ovarian Hemorrhages.—Beall has seen three cases of massive hemorrhage from the ovary; two of these simulated extra-uterine pregnancies; the third caused obstructive symptoms. He says that without a careful histologic study of the ovary, an erroneous diagnosis of ovarian pregnancy might be made.

U. S. Naval Medical Bulletin, Washington, D. C.

24: 175-460 (April) 1926

Medical Tactics in Naval Warfare. W. L. Mann.—p. 175.
Medical Needs of Republic of Haiti at Present Time. C. S. Butler.—p. 269.
*Mercurochrome-220 Soluble, Foreign Protein and Sugar in Gonorrheal Urethritis and Complications. J. E. Potter and F. H. Redewill.—p. 279.
Case of Total Heterotaxy. H. Phillips.—p. 299.
*Leukopenia in Disease. D. L. Beers.—p. 303.
Duodenal Ulcer: Twenty-Eight Cases. J. N. C. Gordon.—p. 307.
Extragenital Chancre: Case. R. F. Hague.—p. 313.
*Alveolar Abscess with Unusual Symptoms. E. D. Harrison.—p. 318.

Mercurochrome, Foreign Protein and Sugar in Gonorrheal Urethritis.—In 200 cases reported, as well as in animal experimentation, Potter and Redewill believe the results obtained

prove that the milk injections intramuscularly activate intravenously injected mercurochrome-220 soluble. By the use of the diphenylcarbazide test for mercury in the seminal fluid and the mercurochrome kidney function test, it is possible, with the first intravenous mercurochrome injection, to detect patients that are not suitable for the continuous use of the drug. By the Rackemann skin test, one can detect within fifteen minutes if a patient is sensitized to nonspecific foreign protein. Milk and sugar, when injected alone, each have a diphasic action with a negative followed by a positive phase. Sugar added to milk alleviates shock, which may result if foreign protein is used alone. There are a number of disease conditions in which this treatment is contraindicated. If the cases are not properly selected in giving this combined injection, serious reactions may result. In the animal experimentation, the combined use of mercurochrome, foreign protein and sugar cleared up staphylococcus infection more decidedly and in a shorter time than when either of the drugs was used alone. Milk and sugar activate the mercurochrome, increase its bactericidal power, penetration, and permeability into the tissues, and stimulate a greater excretion of the dye from the glands, as is proved by the diphenylcarbazide and mercurochrome kidney function tests. The most striking results are rapidity with which acute gonorrhea will respond to the combined mercurochrome-foreign protein-sugar treatment and the few complications that ensue.

Leukopenia.—Beers relates a case of Vincent's infection of the gums and tonsils in which the leukocyte count fell as low as 1,000 per cubic millimeter; polymorphonuclears, 12 per cent; lymphocytes, 68 per cent, and large mononuclears and transitionals, 20 per cent. The symptoms complained of were cardiac pains and attacks of blindness.

Alveolar Abscess with Unusual Symptoms.—The onset in the case cited by Harrison resembled that of pneumonia; the symptoms suggested influenza, malaria or typhoid fever. Extraction of two teeth with large root abscesses gave immediate relief.

United States Veterans' Bureau Medical Bulletin, Washington, D. C.

2: 341-433 (April) 1926

Architecture of Lung. W. S. Miller, Madison, Wis.—p. 341.
Correlation of Clinical and Laboratory Procedures in Tuberculosis. I. Complement Fixation Test. A. Josewich and F. Grave, Minneapolis. —p. 346.
*Active Immunization of Guinea-Pigs by Urinary Antigens from Cases of Tuberculosis. J. J. Enright, New Haven, Conn.—p. 357.
Occupational Therapy for Psychotics. B. W. Carr, Washington, D. C. —p. 362.
Range of Sexual Normality in Psychiatric Case Histories. J. H. Huddleston, New York.—p. 366.
Infection, Exhaustion and Toxic Psychoses. H. J. Kellum, Palo Alto, Calif.—p. 369.
Rating of Service-Connected Disabilities. T. S. Troy, Washington, D. C. —p. 377.
Organization and Administration of Medical Division of Regional Office. W. E. Kendall, Chicago.—p. 382.
Dental Operations for Tuberculous. E. W. Stevens, Camp Kearney, Calif.—p. 388.
*Actinomycosis: Case. F. Shoemaker, Kansas City, Mo.—p. 391.
Sinus Infection in Its Relation to Retrobulbar Neuritis. J. E. Lacy, Harrison, Mont.—p. 393.

Active Immunization Against Tuberculosis.—The results of Enright's observations are such that he is convinced that attempts to immunize guinea-pigs with partly purified urinary antigens from cases of tuberculosis will have to be made on a scale large enough to rule out definitely the element of chance before it is desirable to make any interpretation of the results.

Actinomycosis of Pleura.—Shoemaker reports a case of *Streptothrix actinomyces* infection of the pleura. One interesting feature of this case was the sudden development of a liver abscess after the patient had apparently entirely recovered from the chest condition. While it was not possible to demonstrate the actinomyces in the pus from the liver abscess, or after animal inoculation with this pus, the inference is that the later involvement of the liver was a metastatic process. At no time was the streptothrix demonstrated in the sputum.

Virginia Medical Monthly, Richmond

53: 1-70 (April) 1926

Treatment of Ulcer of Stomach and Duodenum. A. M. Willis, Richmond.—p. 1.
*Simple Ulcer of Small Intestine. I. A. Bigger, University.—p. 4.
*Valuable Early Diagnostic Sign in Tabes. J. A. Hodges, Richmond.—p. 7.
Indications for Antisyphilitic Drugs. T. L. Driscoll, Richmond.—p. 8.
Treatment of Pneumonia. B. M. Randolph, Washington, D. C.—p. 10.
Treatment of Hemorrhoids by Quinine and Urea Hydrochloride Injection. E. H. Terrell, Richmond.—p. 13.
Medicolegal Aspects of Morbid Impulses. A. Gordon, Philadelphia.—p. 16.
Nonsurgical Drainage of Bile Tract by Lyon Method. A. G. Brown, Jr., Richmond.—p. 22.
Exophoria: 167 Cases. C. A. Young, Roanoke.—p. 25.
Treatment of Chronic Empyema. A. S. Brinkley, Richmond.—p. 27.
Uterine Curettage. E. L. Kendig, Victoria.—p. 28.
Care of Mind: Preventive of Physical and Nervous Diseases. B. C. Keister, Washington, D. C.—p. 31.
Benign Tumors of Male Breast. F. Helvestine, Jr., Danville.—p. 35.
Internal Injuries Without External Signs: Case. B. F. Eckles, Richmond.—p. 38.
Medical Treatment of Peptic Ulcer. G. P. Hamner, Lynchburg.—p. 40.
Chronic Gallbladder Disease: Medical Aspects. W. J. Mallory, Washington, D. C.—p. 41.
Cesarean Section. H. F. Kane, Washington, D. C.—p. 43.
Achlorhydria; One Hundred Cases. D. Hamrick and J. E. Wood, Jr., University.—p. 48.
Chief Medical Literature of 1925. W. B. Blanton, Richmond.—p. 51.
Complications of Tonsillectomy. G. B. Gilmore, New York.—p. 55.

Simple Ulcer of Small Intestine.—In neither of Bigger's two cases could the ulcer be attributed to any specific cause. However, in one case the presence of a prune seed near the site of the ulcer suggested trauma as a possible causative factor. Thirty-four cases of simple ulcer of the intestine are now on record.

"Stair" Sign in Early Tabes.—In Hodges' experience, the "stair" sign has proved valuable in the diagnosis of the early ataxic stage of tabes. The "stair" sign, which determines the patient's ability to descend properly a series of stairsteps, with eyes open, but not directed to his feet, or in certain cases, with eyes closed, thus at one time testing both the muscles and the joints, Hodges regards as one of the most delicate and definite tests of ataxia, and one that is often apparent before other signs of ataxia are evident.

Wisconsin Medical Journal, Milwaukee

25: 165-212 (April) 1926

Chronic Heart Disease. J. A. Eyster, Madison.—p. 165.
Application of Special Roentgen-Ray Methods to Cardiac Diagnosis. F. J. Hodges, Madison.—p. 168.
Athletic Heart. L. M. Warfield, Milwaukee.—p. 170.
*Acute Glandular Fever. G. W. Carlson, E. H. Brooks and V. F. Marshall, Appleton.—p. 176.
Gun Shot Wounds of Abdomen in Civil Life. J. W. Steckbauer, Manitowoc.—p. 179.
Convulsions in Infancy and Childhood. M. G. Peterman, Milwaukee. —p. 181.

Acute Glandular Fever.—From October, 1924, to May, 1925, a widespread epidemic of an acute infectious disease manifested by involvement of various groups of lymph glands occurred in the locality in which Carlson and his associates reside. There were at least 1,100 cases. The greatest number of cases appeared during January, February and March and had almost subsided the latter part of April. The epidemic was one in which many of the acute infections were present, such as septic sore throat, septic tonsillitis in many cases and acute glandular fever. The complications encountered were otitis media, peritonsillar abscess, nephritis and in one instance, erysipelas. Because of the mildness of the symptoms the disease ran its course unrecognized in many instances. Some of the cases were mistaken for a septic tonsillitis, a septic sore throat, all loosely designated as "grip," or classified as some other acute infection. During the last few years, there have been reported small epidemics of glandular fever in various sections of the country. The authors collected data on 838 cases. This group includes all of the cases reported during the epidemic. From this number they have selected seventy-nine cases which they classify as glandular fever. These cases are analyzed with reference to their clinical history. Acute glandular fever is considered by many as a distinct disease entirely, but the authors are of the opinion that the facts do not altogether justify its classification.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Disease in Childhood, London

1: 63-121 (April) 1926

Sclerema Neonatorum. I. Five Cases. G. A. Harrison and J. W. McNee.—p. 63.
Special Schools of London. F. C. Shrubsall.—p. 85.
*Lambliasis as Cause of Chronic Enteritis in Children. R. Miller.—p. 93.
*Remote Prognosis of Empyema in Children. J. M. Smellie.—p. 100.
*Nephritis in Children: Prognosis. D. Paterson and W. G. Wyllie.—p. 103.
Tuberculosis of Childhood. A. Moncrieff.—p. 114.

Lambliasis as Cause of Chronic Enteritis.—Examination of twenty-three children infected with *Lamblia* has convinced Miller that the infection is by no means a rarity in hospital practice among children; that it produces a chronic enteritis; that the resultant diarrhea is often severe enough to cause the subjects of the disease to be considerably below their proper weight, and occasionally will produce retarded development and diminution of growth, suggesting that in lambliasis we have a further possible cause of infantilism of the enteritic type; that even in children true "carriers" may be found, infected with *Lamblia,* but without symptoms.

Prognosis of Empyema in Children.—The examination of thirty-six children from ten to thirteen years after operation for an empyema leads Smellie to the opinion that the remote prognosis is excellent. All show some evidence of scarring of the lung, but it is of negligible extent. So far as Smellie has been able to determine, there is no factor that will enable any forecast of the degree of this fibrosis to be made. The duration of the disease prior to operation gives no assistance, nor does the time required after operation for the healing of the wound; in fact, the average duration of symptoms before operation and the subsequent stay in hospital of Smellie's group showing no clinical fibrosis was practically identical with those averages obtained from the whole thirty-six cases.

Nephritis in Children.—Six deaths occurred among twenty-two cases of acute parenchymatous type, and one death, from other causes, among twenty-seven cases of acute hemorrhagic nephritis reviewed by Paterson and Wyllie. The importance of reexamination at an interval of years is emphasized by the difference in the conclusions which may be based on an immediate prognosis as compared with the results of later investigations. From a general examination the immediate prognosis seemed good in thirteen cases of parenchymatous nephritis and in twenty-six cases of hemorrhagic nephritis. After a period of from three to five years, only five of the parenchymatous patients could be said to have recovered completely, as compared with twelve recoveries in the hemorrhagic group. Six of the parenchymatous and nine of the hemorrhagic patients appeared to be in good health, but had albuminuria and abnormal cellular constituents in the urine. The degree of albuminuria and the quantity of cells present were definitely less in the hemorrhagic type than in the parenchymatous cases. Four out of six cases of postscarlatinal nephritis became chronic. The authors emphasize the importance in postnephritis of the presence of even a very slight trace of albumin when it is associated with an excess of cells in the centrifugalized deposit.

British Medical Journal, London

1: 729-770 (April 24) 1926

Circulatory Changes in Anesthesia: Use of Oxygen. L. Hill.—p. 729.
*Recovery After Massage of Heart. W. G. Ball.—p. 732.
Endocarditis. III. T. Horder.—p. 733.
Chronic Pyloric or Duodenal Ulcer: Posterior Gastrojejunostomy with Jejunojejunostomy. G. G. Gillon.—p. 738.
*Gangrene of Leg in Infant Seven Days Old: Recovery. W. R. Grove.—p. 738.
Stridor Accompanying Measles. E. G. Housden.—p. 739.
Novasurol and Hypertonic Saline in Chronic Edema. D. M. B. Evans.—p. 739.
Poisoning by Products of Combustion of Tobacco Applied to Skin. J. O. Jones and C. E. Morris.—p. 739.

Recovery After Massage of Heart.—In the course of an operation for gastrojejunal ulcer, Ball's patient suddenly stopped breathing and his heart ceased to beat. His head was lowered and oxygen only was passed down the intratracheal tube under intermittent pressure. The stomach was rapidly separated, between clamps, from the duodenum and thrown over to the left side of the abdomen. The heart was then gently massaged through the diaphragm at the rate of about sixty to the minute, artificial respiration being kept up meanwhile; 10 minims of 1:1,000 epinephrine solution was injected into the heart muscle through the chest wall. Three minutes elapsed before any sign of heart movements was noticed, when a single forcible contraction was felt; this was followed by fibrillary twitchings for about ten seconds, and was then succeeded by a series of regular, rapid, feeble beats until gradually it beat with its normal rhythm, but at rather a rapid rate. Shortly after the heart began to beat, the patient commenced to breathe.

Gangrene of Leg in Infant.—Grove believes that the gangrene in his case was due to an embolus caught at the bifurcation of the anterior and posterior tibial arteries. The circulation was reestablished, except in the toes and sole of the foot. Only the toes were lost. As to the origin of this embolus, Grove suggests an abnormal umbilical artery on the right as the most probable source.

1: 771-814 (May 1) 1926

Treatment of Pulmonary Tuberculosis. C. Riviere.—p. 771.
Treatment of Spastic Paralysis in Children. H. A. T. Fairbank.—p. 776.
*Hyoscine in Postencephalitis Lethargica: Influence on Carbohydrate Metabolism. P. K. McCowan, J. S. Harris and S. A. Mann.—p. 779.
Rheumatic Affections. J. L. Orr.—p. 782.
*Pressure by Mesenteric Root on Duodenum: Absence of "Duodenal Ileus." G. Robertson.—p. 783.
*Intestinal Obstruction by Gallstone. R. S. Coldrey.—p. 783.
Arthritic Purpura and Pancreatitis Following Mumps. R. E. Wilson.—p. 783.
Maldevelopment of Esophagus. W. Dickson.—p. 784.
Brow Presentation. J. Gossip.—p. 784.

Scopolamine in Postencephalitic Lethargy.—Data supplied by McCowan, Harris and Mann show that in patients with postencephalitic lethargy, those with parkinsonian symptoms receive most benefit from scopolamine therapy, and that this clinical improvement is coincident with an "improved" blood sugar curve, which is made to approximate to the normal type. This improvement is due to a specific action of the drug, though suggestion may be a subsidiary factor. This action of scopolamine is only temporary, but prolonged use of the drug does not lead to tolerance or any deleterious effects. The hysterical element in this disease is probably due to lesions of the basal ganglions, and it is suggested that an analogous lesion may account for similar symptoms in hysteria, chorea, etc. Though in the majority of cases the full benefit of scopolamine can be obtained only by hypodermic administration, there is no doubt that in many cases considerable benefit follows its oral exhibition. The scopolamine may be administered either subcutaneously or by mouth. When given subcutaneously it seems to act more powerfully and its effects continue for a longer period than when the oral method is employed. The question of dosage is of some importance. It is best to commence with fairly small amounts and increase until the required effects are obtained. If given hypodermically, a start can be made with 1/150 grain (0.4 mg.), once a day, and this amount can, if necessary, be increased until as much as 1/50 grain (1.3 mg.) is being given once a day. When administered by mouth, larger doses may be given thrice daily, preferably just after meals, since if given before food the dryness of the mouth and throat makes mastication and deglution somewhat difficult and unpleasant.

Pressure by Mesenteric Root on Duodenum.—Robertson relates the case of a multipara, who on the fourth day following the birth of her last full-time child got out of bed and soon felt giddy. A severe headache followed, and was accompanied by severe vomiting. No pyrexia existed. These symptoms continued for four weeks. Vomiting was "propulsive" in type, of daily occurrence and was usually accompanied by headache but seldom by nausea. The vomit was partly digested food, and was occasionally bilious in character. By the end of a month the patient became very emaciated, and fits of a cerebellar type developed and became frequent. At this stage Robertson saw her, in consultation with her doctor. She was then considered too enfeebled for operation, and very

soon she died. Necropsy showed (1) a tuberculoma, the size of a walnut, of the left cerebellum and (2) extensive tuberculous disease of the abdominal lymph glands. There was not a lymphatic area unaffected. Many of these caseous glands were as large as a small hen's egg; most were somewhat smaller. The mesenteric root was very thick and heavy with large caseous glands. There was not even a suggestion of "duodenal ileus."

Intestinal Obstruction by Gallstone.—Coldrey's patient had been treated from time to time by a physician for gallstones; because her general condition was very poor, no operation had been advised. She had had typical attacks of gallstone colic, clay-colored stools, and dark urine. Then symptoms developed suggesting acute intestinal obstruction, but before an operation could be performed, the woman passed by the rectum a huge gallstone, 2 inches (5 cm.) long and just over 1 inch (2.5 cm.) through, and barrel shaped.

Indian Medical Gazette, Calcutta

111: 105-156 (March) 1926

Differential Diagnosis in Tropics. A. H. Proctor.—p. 105.
Treatment of Lacerated Wounds Within Two Hours. R. J. L. Sladen.—p. 113.
Bombay Millponds and Anopheline Control. B. S. Chalam.—p. 115.
*Inefficiency of Mercurochrome in Treatment of Malaria. J. D. Dundas and D. M. Telang.—p. 116.
*Indian Digitalis. R. N. Chopra and P. De.—p. 117.
Antimony and Filariasis. P. R. Rao.—p. 121.
*Treatment of Intestinal Obstruction with Belladonna. B. D. Pande.—p. 121.
Snake-Bite Due to Lachesis Cantoris. A. B.-D. Castro.—p. 123.
Persistent Hiccup Treated Successfully by Injections of Procaine into Phrenic Nerve. D. M. Ghose.—p. 124.
Two Cases of Liver Abscess. M. Khan.—p. 124.
Cervical Rib Causing Unilateral Brachial Neuritis. J. N. Sen.—p. 126.
Vesical Calculus with Enlarged Prostate in Man Aged 85. K. Ram.—p. 127.
Complete Avulsion of Scalp. W. L. Brookes.—p. 128.
Case of Poisoning from Clitoria Ternatea. R. S. Rajan.—p. 128.
Case of Fibrocystic Tumor of Uterus. E. F. Neve.—p. 129.
*Night-Blindness Due to Ascaris Lumbricoides Infection. A. R. Harigopal.—p. 130.
*Case of Embolism of Spinal Cord. M. P. Chacko.—p. 130.

Mercurochrome in Treatment of Malaria.—In six cases of malaria, Dundas and Telang injected mercurochrome-220 soluble, in 1 per cent solution, intravenously, the actual dose varying with the patient's weight, and being approximately 0.003 Gm. per kilogram of body weight. It had no effect on the malarial parasites, even after two doses. Stomatitis and ptyalism were marked features in every case. The drug appears to irritate the kidney tissue to the extent of producing mild nephritis.

Indian Digitalis.—Chopra and De found that digitalis leaf of good quality grows in the valley of Kashmir (northern Himalayas) and at Mungpoo (eastern Himalayas). Improvements in methods of drying and storage are recommended to get a uniform quality.

Belladonna in Intestinal Obstruction.—Pande cites twenty-seven cases of intestinal obstruction, acute and chronic, not advanced to the stage of ileus, in which he gave tincture of belladonna, in 30 minim (1.9 cc.) doses, every hour, till physiologic symptoms appear, when physostigmine and pituitary extract are exhibited if the intestines do not start acting. In a certain proportion of cases, in which the intestines did not act of themselves, in order to start their action, enemas of soap suds in lukewarm water were given frequently, and also at intervals high rectal enemas to which a liberal amount of castor oil or sweet oil is added. This facilitates the easy passage of a hard fecal mass which may be acting as a plug. If the belladonna is not well tolerated owing to extreme sensitiveness of the stomach, hypodermic injections of atropine should be first started and then followed by belladonna by the mouth, which is the route that is generally followed.

Night Blindness Caused by Ascaris.—In Harigopal's case, the patient, aged 6, became blind directly after sunset each evening, while if he left a brightly lighted room for a darker passage, he had to grope his way. There was no history of any serious illness, and no evidence of hereditary syphilis. There was a history, however, of his having passed worms, and of grinding of the teeth during sleep and of convulsions at the age of 2 years. Accordingly santonin and calomel were given, followed by castor oil. A large number of roundworms were passed, after which the night blindness cleared up completely.

Embolism of Spinal Cord.—Chacko's patient had an inflamed varicose vein from which it was evident that septic emboli were lodged in the spinal vessels, causing a complete paraplegia. The infected embolus set up an acute myelitis.

Lancet, London

18: 895-948 (May 1) 1926

*Visceral Pain and Referred Pain. J. A. Ryle.—p. 895.
*Surgical Treatment of Chronic Duodenal and Gastric Ulcer. L. R. Braithwaite.—p. 900.
*Ischemic Necrosis of Heart. E. Bulmer and F. W. M. Lamb.—p. 904.
Treatment of Chronic Dysentery. R. E. Drake-Brockman.—p. 905.
Value of Sphygmomanometer in Cardiac Diagnosis. T. S. Wilson.—p. 906.
*Lethal Effect of Ultraviolet Light on Normal and Malignant Tissues Grown in Vitro. W. Moppett.—p. 907.
Osteomyelitis of Fifty-Six Years' Duration. G. B. W. Walker.—p. 908.

Visceral Pain and Referred Pain.—Ryle discusses pain associated with disease of the hollow viscera. He asserts: (1) that there is a true visceral pain felt by the viscus; (2) that visceral pain is due to an abnormal increase in the tension of the muscular element of the wall of the viscus, this increased tension resulting either from contraction or from a failure on the part of the muscle fiber to relax adequately in the presence of increased intravisceral pressures; (3) that visceral pain when occurring alone, or dissociable from attendant somatic pains, may be accurately localized by the patient; (4) that referred somatic pain and tenderness, e. g., the viscerosensory reflexes, and the associated visceromotor reflexes, although they may accompany a severe visceral crisis of mechanical origin, more frequently express an inflammatory lesion of the viscus, and (5) that, when persistent, they invariably express organic disease of the viscus of an inflammatory kind.

Cholecystogastrostomy for Peptic Ulcer.—Braithwaite considers cholecystogastrostomy as the operation of choice for inaccessible gastric ulcer. Cholecystogastrostomy brings only bile into the stomach; it obviously does not bring in pancreatic or normal duodenal fluid; thereby the undoubted beneficent effect of bile alone is proved, and it may be more than a simple reduction in acidity; bile may have other powerful qualities in the reduction of gastric disturbances. Braithwaite has done eighteen of these operations, sixteen for gastric ulcer in which excision or destruction of the ulcer was impossible or would have been very dangerous, one for a recurrent, intractable duodenal ulcer, and one for a hyperchlorhydria and pyloric spasm with typical duodenal symptoms. In the two latter cases, a cholecystoduodenostomy was performed just beyond the pylorus. Four patients are in the hospital now; results in the other cases have been most encouraging. No single patient has suffered in any way from the flow of bile into the stomach. In fact, there is nothing whatever to show that anything unusual has been done.

Ischemic Necrosis of Heart.—Bulmer and Lamb report the case of a man, aged 27, whose death, after a typical subacute or chronic nephritis with frequent acute exacerbations, was clinically due to coronary occlusion, and was diagnosed as such. At necropsy, the picture was that of subacute nephritis with a generalized arterial degeneration of a fatty type, with a terminal thrombosis of the left coronary artery at the site of an atheromatous ulcer.

Effect of Ultraviolet Rays on Tissues Grown in Vitro.—It appears from Moppett's study that various normal and malignant tissues have different powers of resistance; the kidney is the most sensitive, the heart next, and the spleen cells, which may be regarded as comparatively undifferentiated, require a lethal dose approaching that for sarcoma. The malignant tissues, however, are definitely more resistant to ultraviolet rays than normal tissues when grown into vitro in this way.

Bulletin de l'Académie de Médecine, Paris

95: 379-382 (April 13) 1926

*Urea and Secretion Index with Hypertension. Richard and Roesch. —p. 380.

The Urea and Secretion Index in Cases of Hypertension.—Richard and Roesch list the findings with the Ambard coefficient, the urea content of the blood, and the record of the diastolic and systolic pressures over long periods of time. In 23.4 per cent of their thousand patients with high blood pressure thus investigated, the Ambard coefficient was normal. This percentage would be 55.2 per cent if all coefficients below 0.100 were accepted as normal. Determination of the urea content of the blood alone is no criterion for the functioning of the kidneys.

Bulletins de la Société Médicale des Hôpitaux, Paris

50: 509-578 (March 26) 1926

*Rheumatism of Tuberculous Nature. P. Harvier et al.—p. 509.
Etiology of Infectious Jaundice. I. Bruhl and M. Ferru.—p. 512.
Dystrophy of Skin and Genitals from Syphilis. Laignel-Lavastine and H. George.—p. 515.
Diabetes Insipidus. M. Labbé and Azerad.—p. 519.
Bengal Rose in Liver Function Test. Fiessinger and Walter.—p. 525.
*Sulphur in Melanoderma from Cirrhosis. M. Loeper et al.—p. 535.
*Vital Capacity with Heart Plus Lung Disease. Caussade et al.—p. 542.
Intensive Treatment of Acute Rheumatism. Caussade et al.—p. 550.
*Roentgen-Ray Treatment of Hemogenia. I. Goia.—p. 555.
*Night Cough with Endocarditis. J. Hatzieganu et al.—p. 559.
Etiology of Mumps. Y. Kermorgant.—p. 564.
Venous Septicemia with Cancer of Ovary. Merklen et al.—p. 567.
Treatment of Hemogenia. P. Merklen and M. Wolf.—p. 572.

Chronic Rheumatism of Tuberculous Origin.—Harvier, Rachet and Lemaire's patient, aged 40, developed chronic rheumatism after three acute attacks, twenty-three, four and three years before. The affection was located in the shoulder and limb joints. Roentgenograms demonstrated lesions of the joints and bones. Repeated bronchitis and anal fistula were among the signs suggesting the diagnosis of tuberculosis, and inoculation of guinea-pigs with the effusion from the knee joint induced in them a tuberculous process.

The Blood Sulphur in Melanoderma with Cirrhosis.—Loeper, Decourt and Ollivier emphasize that the sulphur content of the blood increases in bronzing cirrhosis as well as in Addison's disease. The sulphur is retained in the liver; considerably more sulphur is found in the portal vein than in the suprahepatic. The liver also retains amino-acids. Sulphur and amino-acids are carried to the liver from the intestine, where they originate from the food; they are carried also from the spleen, as a product from hemolysis. Sulphur and amino-acids compose the melanin. The liver receives also iron from destroyed red corpuscles in the spleen or blood. The three substances are oxidized, retained or destroyed in the liver. This functioning is disturbed in the pathologic liver, entailing accumulation of these substances and simultaneous appearance of melanin and iron pigmentations. Hence, the bronzing from the suprarenals and that with hepatic cirrhosis are induced by a similar process.

Vital Capacity in Heart Plus Lung Disease.—Caussade, Guillaume and Evrard measured the vital capacity of seven subjects with heart and lung disease. It was done during maximal exhalation of air into a spirometer, following a maximal inspiration. The coefficient of vital capacity appeared decreased in all. The reduction paralleled the pathologic process, also the course of the disease. The vital capacity was lowered with complications; it rose under the influence of treatment. Evidently the vital capacity may reveal an improvement in the heart and lung functioning, serving as a kind of barometer.

Favorable Action of Roentgen Rays on Hemogenia.—Goia used the treatment in a grave case of hemogenia, the so-called false hemophilia. The rays were applied to the spleen for fifteen minutes, and the bleeding from the nose and gums stopped the same day. The bleeding time, at the right ear, dropped from 105 to thirty-five minutes; at the left ear, from ten to five minutes. The general condition was notably improved by the fourth day; the ecchymoses and petechiae tended to disappear; the bleeding time at each ear was three minutes. The patient recovered completely in ten days. Examination of the blood showed only a few blood platelets. This seems to prove that not thrombopenia, but other factors are responsible for the hemogenia, especially endothelial lesions of the vessels. The favorable action of the roentgen rays may be ascribed to their distant influence on the endothelial cells of the vessels, since these cells are part of the system to which the reticular tissue of the spleen belongs.

Night Cough in Chronic Infectious Endocarditis.—Hatzieganu, Telia and Daniello call attention to paroxysms of coughing occurring always before midnight in patients with slow infectious endocarditis. They found the cough symptom in 80 per cent of their cases. It seemed to precede any clinical sign of heart insufficiency, its intensity corresponding to the fever. Exaggeration of the cough was sometimes observed before reappearance of fever. Specific recurring bronchitis accompanying the endocarditis may enhance the irritability of the intrapulmonary nerve terminals. This is favored by the recumbent position.

Encéphale, Paris

21: 161-232 (March) 1926

Histologic and Clinical Study of Tabes. G. R. Lafora.—p. 161.
A. Meyer's Theory of Dementia Praecox. H. Flournoy.—p. 180.
Hysteric Contractions of Eye Muscles. O. Balduzzi.—p. 195.

21: 233-304 (April) 1926

Mirror Writing. W. Sterling.—p. 233.
*Mental Symptoms in Spirochetal Jaundice. A. Hesnard.—p. 250.
Mental Dissociation in Dementia Praecox. X. Abély.—p. 260.
Necropsy Findings in Epidemic Encephalitis. Claude and Cuel.—p. 272.
Spasmodic Facial Paralysis with Deviation of Head and Eyes. D. Paulian.—p. 275.

Mental Derangement with Spirochetal Jaundice.—In Hesnard's case the disease started with chills and dizziness, followed the next day by epileptiform convulsions and contractions. These meningeal symptoms vanished as soon as the jaundice appeared, two days later. Uremia with oliguria developed the fourth day, accompanied by a delirious form of mental confusion. This continued until death, the eleventh day. The mental disturbance in this case was evidently due to kidney insufficiency, complicating insufficiency of the liver.

Liége Médical

19: 289-311 (April 18) 1926

*Retrogasserian Operation for Facial Neuralgia. L. Christophe.—p. 289.
Oscillometry in Obstetrics. Gosselin.—p. 293. C'en.

Operative Treatment of Facial Neuralgia.—Christophe severed the sensory root of the gasserian ganglion in a man who had suffered from ophthalmic neuralgia of the trigeminus for ten years. The last four years the painful paroxysms had occurred as often as four or five times a day. The operation (February 20, 1926) was performed after all measures, including alcohol injections, had failed. The pains of the major neuralgia disappeared at once and permanently. Cutting the retrogasserian motor root entailed only slight disturbance in mastication, but there is still a mild neuroparalytic keratitis which is improving.

Paris Médical

59: 341-356 (April 10) 1926

Insulin in Treatment of Diabetes. F. Rathery.—p. 341.
The Rhythm of Diuresis. R. Porak.—p. 349.
Muscular Hypotonus in Early Diagnosis of Tabes. Hodjitch.—p. 353.
Facial Neuralgia of Dental Origin. W. Dufougeré.—p. 354.

59: 357-384 (April 17) 1926

"Thermal" Waters in Treatment of Infectious Intestinal Disease. G. Sanarelli.—p. 357.
*Climate in Treatment of Tuberculosis. L. Bernard.—p. 364.
*Mineral Water Treatment of Hypertension. J. Cottet.—p. 368.
Catalytic Action of Sulphur. H. Flurin.—p. 372.
Cannes as a Climatic Health Resort. Bufnoir and Gimbert.—p. 376.
Vichy Treatment of Diabetes. G. Monod.—p. 380.

Influence of Climate in Treatment of Tuberculosis.—Bernard specifies that an altitude of from 1,000 to 1,200 meters, above sea level, is most suitable for the sojourn of the tuberculous. At this height, the air is pure, dry, and sudden changes of temperature are less likely to occur. The air at

this altitude exerts a tonic action and suits perfectly patients with slight fever and minimal or moderate lesions. It is not favorable for those with persisting high fever or tendency to hemoptysis. An altitude of from 1,500 to 1,800 meters may have too stimulating an action, entailing increase of fever, sleeplessness, and respiratory and digestive disturbances. Humidity is not borne well by the tuberculous; nevertheless, humidity from rain and fogs seems to do much less harm than that from damp clay ground. Wind is of all atmospheric conditions the most injurious for the tuberculous. While sea air has a beneficial action on the tuberculous, seashore air may do harm, since atmospheric changes occur there frequently. Quiet, stable atmospheric conditions should be sought.

Mineral Water Treatment in High Blood Pressure.—Cottet emphasizes that the action of mineral water treatment may depend on the way in which it is used. Carbonated baths influence the arterial vasodilatation, the peripheral as well as the central, by way of certain skin reactions. They reduce the arterial tension, and stimulate the heart functioning. Drinking mild mineral waters stimulates kidney functioning, enhancing diuresis. The bath treatment will be more important in cases with high blood pressure chiefly associated with heart disturbances, while oral use of mineral water will be preferable, for instance, in Bright's disease with uremia.

Presse Médicale, Paris

34: 401-416 (March 31) 1926

Primary Aspergillosis of the Lung. M. Macaigne and P. Nicaud.—p. 401.
"Surgical" Extraction of Teeth. L. Monier.—p. 404.
Removal of Brain Hemispheres. L. Binet.—p. 405.

34: 417-432 (April 3) 1926

The Phenomena of Shock and Shock Therapy. L. Bard.—p. 417.
Enucleation of Ovum Intact in Cesarean Section. Fournier.—p. 421.
The Teaching of Surgery. Barthélemy.—p. 427.

34: 433-448 (April 7) 1926

*Surgical Diathermy in Metritis. P. Flandrin and L. Schil.—p. 433.
Chronic Congestion of the Kidney and Chronic Nephritis. Porge.—p. 433.
Sympathectomy for Bone and Joint Tuberculosis. G. Ichok.—p. 435.

High Frequency Currents in Treatment of Cervical Metritis.—Flandrin and Schil report the results of a year's work in this line. Surgical diathermy was applied in cases in which the cervix appeared enlarged, soft, the mucosa protruding and the process discharging. The active electrode was applied directly to the ulceration in the cervix. The sittings were brief, and were repeated at intervals of a week or two. After each sitting a picric acid dressing was applied for a day; then hot douches twice a day. After from three to six sittings, the outline of the external cervical orifice became normal, the ulcerations disappeared. The cervix was supple and permeable. Leukorrhea gradually improved. Electric sparking was employed in resisting and recurring ulcerations with slight eversion of the cervix and a profuse mucopurulent discharge. The electrode was applied at a short distance from the lesion, once or twice a day. Brush discharge was used as an adjuvant or alone in recent lesions. The high frequency currents did not cause any pain; anesthetics were never required. Cases in which amputation of the cervix seemed to be inevitable were cured by this method. Ten or eleven women were reexamined after a year. The clinical recovery had persisted in all. One of them became pregnant soon after the treatment, and delivery was perfectly normal.

34: 449-464 (April 10) 1926

Oscillometer Findings in Raynaud's Disease. H. Grenet and P. Isaac-Georges.—p. 449.
Syphilis in Northern Africa. J. Montpellier.—p. 451.
Exotic and Nervous Syphilis. A. Sézary.—p. 452.
*Palm-Chin Reflex in Facial Paralysis. A. Radovici.—p. 453.
*Hiccup in Tuberculous Meningitis. L. Langeron et al.—p. 455.

Palm-Chin Reflex in Facial Paralysis.—Radovici and Marinesco called attention in 1920 to a skin reflex, the palm-chin reflex. Irritation of the palm of the hand with a needle may be followed by rising of the corresponding half of the chin. This facial reflex was found in 60 per cent of normal subjects. Tests were made on twenty-five patients with facial paralysis and eleven with hemiplegia. Persistence or exaggeration of the palm-chin reflex, on the affected side, suggests a central origin for the paralysis. Absence of the reflex on the affected side, and its presence on the sound side are symptomatic of peripheral paralysis. Existence of the reflex on both sides, in a patient with facial paralysis, testifies to a central origin of the affection. Absence of the reflex on both sides has no diagnostic value, since this may occur also in normal persons.

Localization in the Spinal Cord of Hiccup Lesions.—Langeron, Dechaume and Petouraud describe a case of tuberculosis of the lung, with terminal meningitis, myoclonus and persisting hiccup. The microscopic findings showed that the tuberculous meningitic lesions were predominantly located in the cervical segment of the spinal cord, especially in the motor zone, where the phrenic nerve originates. The medulla presented only signs of inflammation, and was free from specific lesions.

Revue de Chirurgie, Paris

63: 5-61 (Jan.) 1926

"Trochanter-Shaft" Fracture of the Femur; Five Cases. Monod.—p. 5.
Metatarsophalangeal Dislocation of Toes. E. Mourgue-Molines and J. Vidal.—p. 26.
*Sympathectomy for Peripheral Tuberculosis. R. Fontaine.—p. 53.

Periarterial Sympathectomy for Surgical Tuberculosis.—Fontaine applied the operation in six cases of bone, joint or skin tuberculosis. Considerable amelioration, with tendency to recovery, was manifest in a case with suppuration and fistula of the wrist, also in a rebellious lupus of the face and leg, with lesions of the tarsal bones. Elimination of sequestra became more rapid, and suppuration stopped after the operation. In one case the sympathectomy was combined with resection of the bone. The operation failed in three recent cases of bone and joint tuberculosis. The consecutive vasodilatation may have favored the growth of tubercle bacilli.

Revue Médicale de la Suisse Romande, Geneva

46: 129-196 (March 10) 1926. Dedicated to D'Espine and Picot

Spastic Paralysis in Young Children. J. Comby.—p. 130.
Treatment of Eczema in Infants. E. Feer.—p. 137.
*Polyarthritis in a Syphilitic Child. P. Nobécourt.—p. 144.
Graphic Analysis of Typhoid Statistics. C. Pirquet.—p. 150.
Dystrophy of Alimentary Origin in Young Children. G. Mouriquand.—p. 155.
*Acute Cerebral Tremor in Children. E. Wieland.—p. 162.
Condensed Milk in Infant Feeding. J. Taillens.—p. 181.
Gland Fever and Kidney Complications. P. Gautier.—p. 190.

Chronic Polyarthritis in Congenital Syphilis.—In Nobécourt's patient, a girl aged 15, the joint affection had started four years before, involving gradually the joints of the knees, ankles, wrists and hands. The lesions were bilateral and symmetrical, accompanied by atrophy of adjacent muscles and swelling of corresponding glands. The Wassermann test was positive in the blood. Under arsenical treatment the girl recovered; the joints became normal, the Wassermann test weaker. It is possible that joint lesions with congenital syphilis may be due not only to a local action of the spirochetes, but also to a general dystrophy. Nothing to indicate derangement of function in any endocrine glands could be incriminated in this case.

Acute Cerebral Tremor in Young Children.—In two of Wieland's three cases the tremor appeared after pneumonia; it was mild and without fever. The third case occurred after a gastro-intestinal affection, and was accompanied with fever and signs of cerebellar ataxia, especially a general hypotonia. There were no changes of mental or sensory character, no paralysis or spasms. It was a general intention tremor, most marked in the hands and feet; it decreased during rest, and disappeared in sleep. The children were about 3 years old; they recovered within a few weeks or months, without sequelae. The lack of cerebral or pyramidal symptoms suggested an extrapyramidal lesion, entailing a transient disturbance in the tract which controls the balance and synergy of the muscles. There are evidently vascular lesions induced by an infection. He has collected from the literature thirty analogous cases of benign cerebral tremor without signs of compression, all with recovery in a few weeks or months.

Revue Neurologique, Paris

1: 289-416 (March) 1926

The Cerebral Peduncle and Its Subthalamic Contingents. F. d'Hollander and T. Rubbens.—p. 289.
Opaque Vertebrae and Condensing Osteitis. Sicard et al.—p. 309.
Scleroderma from Insufficient Genital Glands. S. Bau-Prussak.—p. 316.

1: 417-512 (April) 1926

Cerebral Disturbances with Injury of Cervical Sympathetic. V. Neri.—p. 417.
*A Familial Nervous Affection. G. Roussy and G. Lévy.—p. 427.
Pigmented Tumor of Spinal Cord. N. Ringertz.—p. 451.

Peculiar Familial Affection of the Nervous System.—Roussy and Lévy describe an affection observed in seven members of a family (two sisters, a brother and four children). The age of the patients ranged from 2 to 38. Unbalanced movements in the gait and in the erect position, general abolition of tendon reflexes, and bilateral or unilateral club foot formed the main symptoms. There were no cerebellar symptoms or changes of sensibility, no muscle atrophy or scoliosis. The cranial nerves appeared intact; nystagmus was never noted. The speech and mental faculty were undisturbed The affection first became apparent as the children started to learn to walk, and no progressive tendency was apparent. The affection evidently differs from Friedreich's disease or the Charcot-Marie type. It appears as a morbid entity, with an unknown etiology so far. Congenital syphilis should be borne in mind. The lesions seem to be located in the posterior and lateral columns of the spinal cord, or in ganglion cells connected with the anterior horns.

Schweizerische medizinische Wochenschrift, Basel

56: 337-360 (April 17) 1926

*Changes of Birds' Thyroid. V. Haecker.—p. 337.
*Injury of Eye from Infra-Red Rays. A. Vogt.—p. 341.
*Constipation and Endocrinology. A. Oswald.—p. 342.
Art as Form of Psychotherapy. H. Schwerdtner.—p. 345.
Complementary Enterostomy. R. Hoffmann.—p. 346.

Changes of Birds' Thyroid.—Haecker found at Halle large thyroids in crows shot during fall and winter (left lobe, maximum 41.6 cmm.). The glands were small in spring and early summer (minimum 5 cmm.). There were also histologic changes. The crows shot at Davos in April had larger thyroids than at Halle.

Injury of Eye from Infra-Red Rays.—Vogt produced grave injuries of the lens, retina and choroid by short infrared rays. Ultraviolet rays damage only the conjunctiva and cornea.

Constipation and Endocrinology.—Oswald emphasizes the frequency of hypothyroid constipation. Substitution therapy has excellent results. In other cases, injections of pituitary preparations may aid. He attributes spastic constipation to hyperthyroidism.

Archivio Italiano di Chirurgia, Bologna

15: 1-116 (Jan.) 1926

*Thyroid Grafts. G. Boattini.—p. 1.
*Trachea to Bridge Gap in Artery. P. Leone.—p. 15.
Pancreas Function After Resection of Stomach. A. Ciminata.—p. 21.
*Cystectomy in Women. A. Cassuto.—p. 51.
Echinococcosis of the Lung. O. Cignozzi.—p. 57.
*Mishaps with Local Anesthesia. R. Riccio and F. B. La Rossa.—p. 85.
Angioma in Thigh. A. Biancheri.—p. 101.

Thyroid Grafting.—Boattini implanted scraps of thyroid tissue after partial or total thyroidectomy in rabbits, rats and dogs. These and his previous experiments confirm the possibility of the healing in place and persistence of function of homoplastic grafts of thyroid tissue. The graft heals best and becomes more abundantly and completely vascularized when implanted in the subcutaneous tissue of the abdomen.

The Trachea as Plastic Material.—Leone reports the successful use of a segment of a trachea to bridge a complete gap in an artery. The lumen of the trachea persists almost intact, reducing the tendency to thrombosis to the minimum. The arterial endothelium proliferates so abundantly that the junction is soon a solid union, and the endothelium crowds out the mucosa lining. The trachea retained its vitality, and the perichondrium even displayed a certain proliferative tendency.

Total Cystectomy in Women.—Cassuto extols the advantages of evacuating almost the entire contents of the small pelvis, from the rectum to the pubis. The ureter stumps are sutured to the skin, brought out through the rectus muscles. The patient must be adequately prepared for the intervention, first diverting the urine with a high lumbar fistula. He attributes to the lack of this preparation the fatal outcome in the one clinical case in which the method has been applied to date. The patient had uremia and an unfavorable Ambard index besides her bladder cancer.

Mishaps in Local Anesthesia.—Riccio and La Rossa discuss the share of procaine and of epinephrine in the untoward by-effects. They have found records of slight collapse in seven cases, tachycardia in two, a rise in temperature (to 39 C.) in six, headache or vomiting, two each, and intense agitation in three. A postoperative necrosis developed in fourteen cases, and secondary hemorrhage in fifteen. Fifteen fatal cases have been recorded. They incriminate the epinephine for nearly all these mishaps, and in particular for the fatalities with thyroidectomy and tonsillectomy. With hypertension, the additional rise under epinephrine may arrest the heart action.

Pediatria, Naples

34: 393-448 (April 15) 1926

*The Dick Test. M. Giuffrè.—p. 393.
The Purpuras of Children. C. Gallo.—p. 404.
Creatinine Excretion. V. Tripputi.—p. 415.
*The Pirquet Test and Vaccination. L. Ricciardi.—p. 421.
Encephalopathies. A. de Capite.—p. 426.

The Dick Test.—Giuffrè prepared toxins from streptococci of various sources (erysipelas, pus, etc.). They produced skin reactions in about the same percentage of normal subjects as has been found in America when using Dick's toxin. He had occasion to use his toxins in twelve subjects before, during and after scarlet fever. In three of them the results were constantly negative. In seven, the positive reaction turned to negative and remained so. In two, this negative reaction again changed back to positive.

The Pirquet Test and Vaccination.—Ricciardi found that tuberculous children develop tuberculin anergy, or at least a weaker reaction during vaccination against smallpox.

Revista Española de Medicina y Cirugía, Barcelona

9: 1-66 (Jan.) 1926

Digestive Disturbances in Infants. M. Torelló Cendra.—p. 1.
Dacryocystorhinostomy. Campos.—p. 5.
*Pituitary Extract and Asthma. Rogelio Buendia.—p. 7.
Association of Two Microbes in Etiology of Infectious Diseases. Casimiro Bonmati.—p. 9.
Bacteriophage in Hygiene and Therapeutics. J. Salvat Marti.—p. 11.
Proteins in Relation to Liver Disease. P. Farreras.—p. 16.

Pituitary Treatment of Asthma.—Buendia explains on a neurohormonic basis the action of pituitary extract in permanently curing or materially relieving fully 70 per cent of his cases of asthma. His series includes some that had been refractory to epinephrine and all other measures, and some of twenty years' standing. This treatment has the advantage over epinephrine that high blood pressure is not a contraindication for it. He injects subcutaneously 1 cc. of the extract of the posterior lobe.

Revista Médica Latino-Americana, Buenos Aires

11: 551-705 (Dec.) 1925

"Black Cardiacs" and Sclerosis of Pulmonary Artery. R. A. Bullrich and O. Behr.—p. 551.
*Immunization Against Diphtheria. M. Ponce de León.—p. 607.
*Efficacy of Radium in Treatment of Ozena. E. Casterán.—p. 629.
*Blocking the Superior Maxillary. J. Ubaldo Carrea.—p. 635.
Sclerosis of the Lungs. E. Soza.—p. 649.
Genu Valgum; Pathology and Surgical Treatment. Guadagnini.—p. 661.

Anatoxin in Immunization Against Diphtheria.—Ponce de León states that the mortality of the 5,903 cases of officially recorded diphtheria in the last seven years in Uruguay was 11 per cent. This formed from 0.02 to 0.09 per cent of the total mortality. He became convinced of the efficacy and harmlessness of anatoxin by experiments on guinea-pigs and horses. Ramon's technic was not strictly followed, as he

could see no difference in the effect when only 1.5 per thousand of the formaldehyde solution was used, and the fluid kept only at 37 C. for thirty or forty days (Ramon uses a 3 or 4 per thousand solution and heats to 40 and 42 C.). Of 400 children under 12 given the Schick test, 48 per cent responded with a positive reaction. These were injected in the thigh with 0.5 cc. of the anatoxin. In twenty days the Schick test was positive only in 78 per cent. These were then given a second injection of anatoxin; twenty days later only 2 per cent responded positively, and these became negative after a third injection. The local reaction was practically absent. He found that the anatoxin retained its potency unimpaired for six or eight months at least.

Radium Treatment of Ozena.—Casterán relates that all the symptoms subsided in the ten cases of ozena reported in which radium had been applied to the nasal fossas, according to Vasilia's technic. In one case the ozena was of ten years' standing.

Blocking the Superior Maxillary Nerve.—Ubaldo Carrea gives nine large roentgen-ray pictures showing the exact technic for blocking the trunk of this nerve by introducing a long fine straight needle through the posterior palatine canal to the pterygomaxillary fossa. This technic avoids large vessels and anesthetizes the entire region supplied by the superior maxillary.

Semana Médica, Buenos Aires

2: 1585-1640 (Dec. 24) 1925

Mixed Tumor of Kidney in Girl. C. Lagos Garcia.—p. 1585.
The Ovary and Carbohydrate Metabolism. V. Peradotto.—p. 1591.
Prophylaxis of Cancer. F. C. Guerrini.—p. 1606.
False Osteomalacia of the Pelvis. A. J. Guiroy.—p. 1609.
Teaching of Anatomy. Lewis.—p. 1612. Idem. Gutiérrez.—p. 1613.
*Aneurysm of Descending Aorta. O. E. Adorni.—p. 1614.
Dupuytren Contracture of Traumatic Origin. Masciotra.—p. 1615.
Three Greek Medical Inscriptions. A. Walter.—p. 1617.
Frequency of Initial Forms of Chronic Pulmonary Tuberculosis. O. P. Curti.—p. 1620.
Factors Influencing Effect of Artificial Feeding of Infants. M. Etchegaray.—p. 1622.

Cantani's Sign of Aneurysm of the Descending Aorta.—Even before roentgenoscopic examination, Adorni was able to affirm the existence of the aneurysm from the fact that the heart sounds could be distinctly heard on auscultation of the spine from the second dorsal vertebra to the first lumbar. They could be heard also but less distinctly along the left paravertebral line, from the third to the eleventh dorsal vertebra. The heart sounds could not be distinguished in the supraspinous and infraspinous fossas nor on the right paravertebral line. Cantani called attention in 1922 to the transmission of the heart sounds to the spine as an early sign of aneurysm of the descending aorta.

Archiv für Verdauungs-Krankheiten, Berlin

37: 1-523, 1926. Dedicated to L. Kuttner

Spasms of Digestive Tract. M. Einhorn and T. Scholz.—p. 1.
Nervous Anorexia. K. Faber.—p. 17.
Air Content of Intestine. R. Asch.—p. 30.
*Feeding by the Rectum. I. Boas.—p. 37.
Visualization of Gallbladder. Borchardt and Rabau.—p. 54.
Action of a Laxative. E. Fuld and J. Tugendreich.—p. 59.
Relations Between Digestive Tract and Female Sex Organs. A. Koblanck.—p. 72.
Treatment of Mechanical Ileus. W. Körte.—p. 83.
Pathology of Nodular Dysentery. L. Pick.—p. 102.
Prognosis of Insulin in Coma. P. F. Richter.—p. 119.
Nervous Rhinitis. A. Kuttner.—p. 128.
*Predisposition to Ulcers. H. Strauss.—p. 133.
Surgery of Perforated Peptic Ulcer. Mühsam and Unger.—p. 140.
Idem: Remote Results. E. Unger and M. Fuss.—p. 154.
*Skin Sign in Gastric Cancer. K. Brandenburg.—p. 156.
Tuberculosis of Reticulo-Endothelial System. Friedemann.—p. 167.
Liver—Syphilis—Arsphenamine. A. Buschke and E. Langer.—p. 173.
Bronchoscopy. H. Claus.—p. 196.
*Idiosyncrasies of the Eye. O. Fehr.—p. 200.
Injuries from Roentgen Diagnosis. M. Levy-Dorn.—p. 206.
Diathermy in Gastro-Intestinal Disease. A. Laqueur.—p. 218.
*Carbohydrate Cleavage. J. Wohlgemuth and Sorochowitsch.—p. 225.
Agglutination of Colon Bacilli. K. Meyer.—p. 239.
Periarteritis Nodosa. E. Christeller.—p. 249.
Bactericidal Duodenal Fluid. W. Löwenberg.—p. 274.
Tender Points and Head's Zones in Diagnosis. Friedlaender.—p. 297.
Roentgen Treatment of Peptic Ulcer. W. Nauenberg.—p. 305.
Tests for Gastric Motility. F. Riesenfeld-Hirschberg.—p. 313.
Nicotine and Digestion. G. Noah.—p. 319.
Atoxyl-Resistant Lipase. D. Kwilecki.—p. 336.
Blood Bilirubin and Gastric Ulcer. G. Scherk.—p. 344.
Cholecystography. Becht.—p. 349. Idem. Heinemann.—p. 422.
*Electrometric Stomach Tube. R. Unger.—p. 358.
*Blood Sugar in Dermatoses. F. Simon.—p. 363.
Organic Hour-Glass Stomach. E. Unger and S. Glasscheib.—p. 371.
Gastrocolonic Fistula. C. Wittkowsky.—p. 386.
Heredity in Peptic Ulcer. E. Adler.—p. 393.
*Cross-Bar Symptom of Gastric Ulcer. A. Fränkel.—p. 408.
Remote Tenderness in Abdominal Diseases. M. Hirschberg.—p. 428.
*Fractional Analysis of Stomach Contents. K. Isaac-Krieger.—p. 442.
Diagnosis of Gastrocolonic Fistula. P. Kuttner.—p. 454.
Treatment of Syphilis. M. Kuttner.—p. 457.
Gastric Ulcer and the War. G. Lehmann.—p. 465.
Metabolism in Pathology. E. Mayer.—p. 469.
Protein Therapy of Ulcer. F. Schlesinger.—p. 489.
Roentgen Findings in Duodenal Ulcer. W. Teschendorf.—p. 498.
Structure of Nervous Stomach. H-P. Kuttner.—p. 508.
Pernicious Anemia. G. Kuttner.—p. 516.

Feeding by the Rectum.—Boas feels that rectal feeding has been overestimated. Only the rectal administration of large amounts of water has proved dependable. The carbohydrates added to the water are more ornamental than nourishing. Yet they make the patient feel better.

Predisposition to Ulcers.—Strauss emphasized fifteen years ago the importance of a predisposition to chronic ulcers of the stomach. Local ischemia—mechanical, from the sagging stomach, as well as spastic, may account for part of the pathogenesis.

Skin Sign in Gastric Cancer.—Brandenburg used a weak solution of potassium permanganate, in a short glass cylinder, 3 cm. in diameter, pressed water-tight on the skin of the forearm. He dipped in it the negative pole of a 1 milliampere current. After five minutes, he noted about twenty or thirty brown spots when the temperature of the solution was 20-24 C. If the temperature was 40-50 C., the whole field was covered with a fine deposit. With cold water, only a few coarse spots were visible. Scratching of the skin interferes with the experiment, because the current selects the scratch line. In several cases of cancer, the picture obtained with tepid or hot water resembled that with cold water in the normal subjects. The cachectic tuberculous, and patients during chills, reacted as in the cancer cases. Pernicious anemia and myeloid leukemia reacted the opposite way. Persons with rheumatic insufficiency of the aorta responded to cold like the normal to hot water. In the course of similar experiments, he found it advantageous to apply tincture of iodine to the parts of skin from which he took electrocardiograms. It diminishes the resistance to the electric current.

Idiosyncrasies of the Eye.—Fehr calls attention to conjunctivitis caused by hypersensitiveness to various drugs applied locally. The atropine catarrh causes a swelling of the follicles, edema of the eyelids and dermatitis. The eserine catarrh is milder. Procaine is not infrequently a cause. The condition may resemble erysipelas.

Carbohydrate Cleavage in the Liver.—Wohlgemuth and Sorochowitsch found that the surviving liver tissue of pancreatectomized dogs retains for a time the ability to form acetaldehyde from various carbohydrates. Later on, this faculty disappears. Insulin does not restore it.

Electrometric Stomach Tube.—Unger describes a stomach tube provided with a small copper-zinc element. He measures with a milliamperemeter the current generated. The strength of the current depends chiefly on the acidity of the gastric juice.

Blood Sugar in Dermatoses.—Simon found in psoriasis and furunculosis a higher level of blood sugar. Hyperglycemia is common in eczema, especially in chronic cases. Insulin treatment acts favorably sometimes, especially on the itching.

Cross-Bar Symptom of Gastric Ulcer.—Fränkel makes about ten roentgen pictures of the stomach within twenty seconds, draws the outline of the shadows, and superposes them. A short line (about 8 mm.) on the lesser curvature, without any signs of peristalsis constitutes this "cross-bar (*Riegel*) symptom." It is due to the local inhibition of the transverse musculature produced by an ulcer or (rarely) by a beginning carcinoma. A large percentage of such patients suffered a perforation. He regards it as the second direct

reliable sign of gastric ulcer. The first sign was Haudek's niche.

Fractional Analysis of Stomach Content.—Isaac-Krieger concludes that the fractioned aspiration of gastric contents constitutes no advantage for the clinical study of the case nor for the diagnosis.

Beiträge zur klinischen Chirurgie, Berlin

136: 1-192, 1926

*Tumors of Mediastinum. H. Braun.—p. 1.
Gastropexy. H. Schloessmann and E. Röhrig.—p. 9.
*Skin Sensibility in Umbilical Hernia. E. Stahnke.—p. 38.
Leukocytes in Surgery. M. Siebner.—p. 42.
Diagnosis of Surgical Tuberculosis. H. Friedrich.—p. 56.
*Talma's Operation. A. v. Tempsky.—p. 92.
*Bone Marrow and Regeneration. C. T. Willich.—p. 102.
"Roentgen Dosimeters." M. Jona and K. Leistner.—p. 175.
Roentgen Study of Male Urethra. H. Bromer.—p. 180.

Tumors of Mediastinum.—Braun reports two instances of removal of tumors from the posterior mediastinum. Artificial pneumothorax made on the day before the operation reduced the tendency to shock.

Skin Sensibility in Umbilical Hernia.—Stahnke found degeneration of the axis cylinder in the nerves of the skin covering umbilical hernias. This accounts for the lowered sensibility. If the myelin sheath degenerates, the anesthesia is complete. The degree of the changes depends on the extent and duration of the stretching of the skin.

Talma's Operation.—Tempsky reports on twenty-five cases of the Talma operation made at Küttner's clinic since 1901. A remarkable improvement followed in seven patients (28 per cent). Five in this group had hypertrophic cirrhosis, one atrophic cirrhosis and one ascites from cardiac cirrhosis.

Bone Marrow and Regeneration.—Willich concludes from his experiments with free autotransplants of bones in dogs that the endosteum and the bone marrow are just as important in bone formation as the periosteum.

Deutsche medizinische Wochenschrift, Berlin

52: 557-600 (April 2) 1926

*Latent Syphilis. W. Kolle and E. Evers.—p. 557.
*Estrual Reaction in the Blood. S. Loewe et al.—p. 559.
Atrophy of Infants. S. Engel.—p. 561.
*Degkwitz' Measles Serum. R. Kochmann.—p. 565.
Toxin-Antitoxin Immunization. H. Nothmann.—p. 566.
*Extrapleural Thoracoplasty. O. Ziegler.—p. 567.
Labor After Cesarean Section. F. C. Wille.—p. 569.
Aortalgia and Angina Pectoris. L. Frank and W. Worms.—p. 570.
Volitional Changes of Heat Radiation. I. H. Schultz.—p. 571.
Vitamins and Growth of Infants. H. Aron.—p. 572.
Vitamins in Milk. E. Edelstein.—p. 574.
Antirachitic Activation of Cholesterol and Food by Ultraviolet Irradiation. A. F. Hess.—p. 577.
Serum Phosphorus and Rickets. K. Samson.—p. 579.
Sickness Insurance. S. Alexander.—p. 580.
An American Hospital. P. Cahanowitz.—p. 582.

Latent Syphilis.—Kolle and Evers inoculated rabbits with syphilis about four weeks after an injection of a bismuth suspension. The animals developed no symptoms. If the bismuth deposit was removed two or three months later, typical chancres developed. Other animals could be infected by inoculation of an emulsion from the popliteal lymph nodes of rabbits in which the syphilis was kept latent by bismuth. Experimental transmission of syphilis succeeds apparently in only 90 per cent of the animals, and only in a small percentage in direct transmission from man. Yet the popliteal lymph nodes of such apparently resistant rabbits are infectious. In one case, the chancre became manifest after inoculation with lymph nodes from an apparently immune rabbit that had been inoculated with the nodes from another rabbit which did not react. All this shows a close parallelism between the infection of rabbits and of man.

Estrual Reaction in the Blood.—Loewe, Lange and Faure publish their method for extraction of the estrual hormone from blood, urine and other fluids. They dissolve it in oil and inject in mice. They recommend a determination of the percentage of squamous cells without nuclei in the vaginal smears.

Degkwitz' Measles Serum.—Kochmann injected Degkwitz' measles serum in nineteen children. Only six of them did not get measles—chiefly because they were probably already immune. Two of the injected children died. One of these had been injected between the seventh and the ninth day of incubation, which is considered by Degkwitz as the optimum time. Grave serum sickness developed in one third of his cases. The failure was thus complete.

Extrapleural Thoracoplasty.—Ziegler had no death in eighty-six thoracoplastic operations in uncomplicated cases. Four of seventeen patients with empyema died. He uses only local anesthesia.

52: 601-648 (April 9) 1926

Fiftieth Meeting of the German Surgical Society. A. Borchard.—p. 601.
Surgery of Exophthalmic Goiter. G. Hotz.—p. 604.
Endothelioma of the Thyroid. F. de Quervain.—p. 605.
*Treatment of Fractures. H. Matti.—p. 607.
Trigeminal Neuralgia. P. Clairmont.—p. 609.
*Nil Nocere. O. Lanz.—p. 611.
Bolt in Treatment of Fracture of Neck of Femur. C. F. A. Koch.—p. 613.
Treatment of Bronchiectasis. J. H. Zaaijer.—p. 614.
*Multilocular Cysts of the Kidney. T. Rovsing.—p. 614.
Statistics on Tuberculosis of the Kidney. G. Ekehorn.—p. 615.
Iodine in Exophthalmic Goiter. J. Nicolaysen.—p. 616.
Retroperitoneal Lipomas. A. Krogius.—p. 618.
Surgery in Hematemesis. E. Hesse.—p. 620.
Technic for Radon Treatment. Petrow and Kusmina.—p. 622.
Surgery of Peptic Ulcers. Orhan Bey.—p. 624.
Prevertebral Fibrosarcomas. v. Verebély.—p. 626.
*Contracture of Hip. A. Stanischeff.—p. 628.
Treatment of Peritonitis. L. Cardenal.—p. 630.
Surgery of Nephrolithiasis. P. Cifuentes.—p. 632.
Technic for Artificial Anus. C. Cabeça.—p. 635.
Strengthening Debilitated Patients. G. W. Crile.—p. 636.
Brain Tumors. W. E. Dandy.—p. 638.
Congenital Arteriovenous Fistulas. D. Lewis.—p. 639.
Twilight Zone in Medicine. W. J. Mayo.—p. 642.
Spinal Anesthesia. J. Arce.—p. 644. Idem. J. Izquierdo.—p. 646.
History of Syphilis. K. Dohi.—p. 646.

Treatment of Fractures.—Matti deals with some of the present problems in surgery of fractures. He warns emphatically against mobilization and exact reposition of impacted fractures of the neck of the femur in the elderly. He rates the danger from direct extension of the bone higher than that from open reconstruction of the bone. Many mishaps of osteosynthesis methods are due to the use of catgut instead of silk.

Nil Nocere and the Tunica Vaginalis as Test Object.—Lanz tests first the fluids to be injected into the cerebrospinal canal, as well as into the ureters, on the tunica vaginalis propria in patients with hydrocele. Some of the local anesthetics gave no reaction. Colloidal silver caused, in one instance, a grave necrosis and inflammation of the tunica. He prohibited its use in pyelography, and the sad experience since of other clinicians showed that he was right. Sodium bromide (25 per cent) is less irritating than 12.5 per cent sodium iodide.

Multilocular Cysts of the Kidney.—Rovsing cured three patients with polycystic kidneys by multiple punctures of the cysts. No fistulas formed. This might have been expected since the cysts contain no urea.

Contracture of the Hip.—Stanischeff corrects the shortening of the femur in contractures of the hip joint by a pertrochanter osteotomy, cutting the femur through both trochanters and sliding the lower cut surface on the upper to lengthen the femur, concluding with extension by a wire passed through the bone. No plaster. Six illustrations show the technic.

Jahrbuch für Kinderheilkunde, Berlin

112: 1-110 (March) 1926

*Splenomegaly with Lipoid Cells. E. Schiff.—p. 1.
*Formation of Casts. A. Feuchtwanger and M. Lederer.—p. 7.
Experimental Rickets. P. György and G. Popoviciu.—p. 22.
*Idem. P. György et al.—p. 35.
Treatment of Erythrodermia. Z. v. Barabás.—p. 44.
Blood Platelets in the New-Born. H. v. Farnos.—p. 47.
Cervical Osteomyelitis. F. Basch.—p. 51.
*Hemoglobin Resistance. H. Bischoff and H. Schulte.—p. 56.
Treatment of Syphilis in Infants. E. Pese.—p. 62.
*Etiology of Scarlet Fever. H. Deicher.—p. 74.

Splenomegaly with Lipoid Cells.—Schiff reports the first case of splenohepatomegaly of the Niemann-Pick type diagnosed in the living. The patient was an infant, aged 17

months, and the parents had noticed enlargement of the abdomen from the age of 3 months. The blood picture was about normal, but the serum was pseudochylous. The complexion was pale brownish. The enlargement of the liver was more pronounced than in Gaucher's splenomegaly. Puncture of the spleen revealed typical large cells containing fat and lipoids, as described by L. Pick. This decided the diagnosis.

Formation of Casts.—Feuchtwanger and Lederer regard acidosis as the most important factor in the formation of urinary casts in infants. Acidosis also increases the amount of urinary colloids, which furnish the material for the casts. They were able to induce albuminuria and cylindruria by administering calcium chloride.

Experimental Rickets.—György, Jenke and Popoviciu found that nonirradiated cholesterol and its derivatives have no antirachitic properties. Irradiated cholesterol and its ester are active. Cholestanols and choleic acid are hydrated products and cannot be activated by irradiation. They suggest the possibility of oxidation by the action of light at the point of double binding.

Hemoglobin Resistance.—Bischoff and Schulte conclude from the curves of destruction of hemoglobin that infants have two hemoglobins: one from the fetal life, which is more resistant, and another, which is formed after birth.

Etiology of Scarlet Fever.—Deicher confirms completely the American work on the etiology of scarlet fever. Not every streptococcus obtained from scarlet fever produces a good toxin. He believes that it may be possible to identify these strains better by agglutination tests. Streptococci from other sources and some of the streptococci from scarlet fever patients produce other toxins, which are not specific. While a convalescent from scarlet fever has a negative Dick test as a rule, he will react to these nonspecific toxins. A convalescent child with a positive Dick test again became ill shortly afterward with scarlet fever. He rates the reliability of a negative Dick test at 98 per cent. The failures are partly due to changes in the susceptibility in the same individual.

Klinische Wochenschrift, Berlin

5: 633-680 (April 9) 1926

Fiftieth German Surgical Congress. V. Schmieden.—p. 633.
Hour-Glass Tumors of the Spine. M. Borchardt.—p. 636.
*Lipoid Theory of Anesthesia. H. Winterstein.—p. 642.
*Niche in Cancer. K. Presser.—p. 644.
Surgery for Kidney Stones. M. Zondek.—p. 646.
Paralysis of Opponens Muscle. S. Weil.—p. 650.
*Pain Conduction in Vessel Nerves. L. Hirsch.—p. 651.
Sport Injuries. W. Baetzner.—p. 653.
*Heart Hormone. L. Haberlandt.—p. 654.
*Lipoid Antibodies. R. Brandt et al.—p. 655.
Duodenal Diverticulum. Rave.—p. 655.
Pneumococcus Peritonitis. W. Budde.—p. 657.
Surgery of Colitis. Klose.—p. 659.
Distribution of Physicians in the United States. K. Freudenberg.—p. 662.
Change of Sex. P. Hertwig.—p. 663.
*Gas Metabolism. H. W. Knipping.—p. 677.

Lipoid Theory of Anesthesia.—Winterstein surveys the evidence against the lipoid theory of anesthesia. It is impossible to judge from the solubility in oil as to the solubility in the lipoids of organs. The cause of the—not very close—parallelism between the narcotic power and the coefficient of distribution between oil and water is simply the fact that a less water-soluble substance will adhere better to the water-insoluble surface of the cell. Warburg's experiments with shaking of aqueous solutions of narcotics with charcoal gave similar results as shaking with oil. Yet nobody would base on that a "charcoal theory" of anesthesia.

Niche in Cancer.—If the niche is larger than a cherry stone, Presser regards cancer as probable.

Pain Conduction in Vessel Nerves.—Hirsch found spinal sensory fibers in the arteries of the extremities.

Heart Hormone.—Haberlandt was able to extract from the heart an alcohol-soluble substance that induced contractions in the frog heart which had been standing still. It also accelerated and increased the pulsation.

Lipoid Antibodies.—Brandt, Guth and Müller injected rabbits with mixtures of hog serum with lipoids from various sources. They found indications of organ specificity, especially with lipoids extracted from brain tissue.

Gas Metabolism.—Knipping fears that the determination of gas metabolism may take the same development in Germany as it did in the United States. He tries to convince practitioners that it rarely pays to acquire such an apparatus and to learn how to handle it. He sees another danger in the production of too simple types of apparatus, as he attributes to America. Against this danger he had devised an apparatus which is practically identical with the simplest registering types used commonly in the United States.

Medizinische Klinik, Berlin

22: 559-598 (April 9) 1926

Myxedema of Adults. H. Curschmann.—p. 559.
Monocytes from Trialistic Standpoint. V. Schilling.—p. 563.
Occupational Diseases of Physicians. J. Löwy.—p. 567. C'td.
*Vagus or Carotid Pressure Experiment? N. Ortner.—p. 570.
Chronic Arthritis. F. Munk.—p. 571.
*Virus of Encephalitis and Herpes. H. Pette.—p. 573.
*Psychology of Angioneurotic Edema. I. H. Schultz.—p. 576.
Endotoxin Poisoning by Typhoid Vaccine. E. Hoke.—p. 577.
*Models of Enzymes. H. Haehn.—p. 577.
Problems of Virus Research. R. Kraus.—p. 579. C'cn.
Arteriosclerosis and Cirrhosis as Occupational Injury. v. Schnizer.—p. 581.
Resorption of Cinchophen by Skin. Horsters and Rothmann.—p. 582.
Insulin Treatment of Nondiabetics. H. Bernhardt.—p. 585.
Pharmacology of the Kidneys. E. Hesse.—p. 588.

Vagus or Carotid Pressure Experiment?—Ortner observed an almost immediate bradycardia (after two to four pulses) on compression of one or both femoral arteries in arteriosclerosis.

Virus of Encephalitis and Herpes.—Pette finds no definite reasons for assuming the identity of the virus of epidemic encephalitis and of febrile herpes.

Psychology of Angioneurotic Edema.—Schultz' patient was a man dissatisfied with his wife but faithful to her. He had the habit of taking off each night the wedding ring he wore. On the morning after the departure of his wife for a three weeks' absence, he developed an angioneurotic edema of the ring finger, which made it impossible to replace the ring. The edema disappeared when the wife returned.

Models of Enzymes.—Haehn publishes two models of enzymes. One of them is a combination of chlorides of potassium, sodium and calcium with alanin, l leucin and eventually a peptone. It has the action of an amylase. The other is a mixture of phosphates with a p_H of 7.1 with addition of glycocoll. It oxidizes acetaldehyd and propionaldehyd in the presence of methylene blue, thus resembling Schardinger's milk enzyme (an oxido-reductase).

Münchener medizinische Wochenschrift, Munich

73: 639-680 (April 16) 1926

Psychotechnics and Medicine. Poppelreuter.—p. 639.
*Roentgenotherapy in Neuralgia. F. K. Walter and F. Lax.—p. 643.
Epidemic Encephalitis in China. M. Pfister.—p. 645. C'td.
Rhythmic Faradization. R. Geigel.—p. 647.
Hypotonic Syndrome. G. Joachim.—p. 648.
*The Kielland Forceps. E. Frey.—p. 649.
Apparatus for Pleura Puncture. W. Weitz.—p. 650.
*Raw Sauerkraut in Medicine. A. Hartmann.—p. 651.
Danin's Gonorrhea Test. V. Pflanz.—p. 653.
Telegonia. D. v. Waldeyer-Hartz.—p. 654.
Goiter Surgery. H. Doerfler.—p. 655.
The Physician and Agricultural Reform. H. Krauss.—p. 658. C'td.
History of Medicine. F. Lejeune.—p. 660.

Roentgenotherapy in Trigeminal Neuralgia.—Walter and Lax are astonished that the roentgen rays are so rarely used in treatment of neuralgia of the trifacial nerve. They report nineteen cured by it among twenty-nine cases, six considerably and two distinctly improved. The first exposure frequently causes an exacerbation of the pains. The technic seems to play a great part in the success.

The Kielland Forceps.—Frey recommends the Kielland forceps for practitioners, but adheres strictly to the old indications in its use.

Raw Sauerkraut in Medicine.—Hartmann extols the advantages of raw sauerkraut. It has a high vitamin content, influences the intestinal flora, and is a household remedy in ascaridiasis.

Wiener klinische Wochenschrift, Vienna

39: 437-464 (April 15) 1926

The Coronary Circulation. R. Kaufmann.—p. 437. C'td.
*Hypoglycemia After Denervation of the Pancreatic Artery. K. Doppler and K. Steinmetzer.—p. 441.
*Pharmacology of Caffeine. M. Grossmann and K. Lušicky.—p. 442.
Liver Function Tests with Dyes. R. Bauer.—p. 444.
Psychiatric Histories. K. Grosz.—p. 446.
Mucosa in Skin Diseases. S. R. Brünauer.—p. 447. C'cn.
Sanatoriums and Tuberculosis. E. Ladeck.—p. 449. C'cn.
Difficult Extractions of Teeth. H. Wolf.—p. 450.
Abdominal Tumors. H. Steindl. Supplement.—p. 1-18.

Hypoglycemia After Denervation of the Pancreatic Artery.—Doppler and Steinmetzer applied an 8 per cent aqueous solution of phenol to the arteries of the pancreas in dogs and rabbits. The blood sugar began to decline in about seventeen days, and reached its minimum (17 to 52 per cent below normal) after twenty-five to forty-seven days more. Then it rose again and eventually declined—probably because of the interaction of the suprarenals.

Pharmacology of Caffeine.—Grossmann and Lušicky found no clinical influence from the double salts of caffeine on the circulation nor on the central nervous system. A real action could be obtained only with pure caffeine or with black coffee.

Zeitschrift für Kinderheilkunde, Berlin

41: 1-260 (April 13) 1926

*Action of Heat on Infants. F. Demuth et al.—p. 1.
*Signs of Birth Injury of Brain. A. Dollinger.—p. 20.
Persistence of Fetal Heart Conduction. L. Doxiades.—p. 24.
*Blood Chemistry of Scurvy. E. Edelstein and S. Schmal.—p. 30.
*Treatment of Epilepsy. E. Freudenberg.—p. 46.
Clinical Study of Rickets. M. Klotz.—p. 51.
Exophthalmos, Obesity and Insipidus in Girl. R. Kyrklund.—p. 56.
Superinfection in Tuberculosis. H. Langer.—p. 63.
Microsedimentation Test. H. Langer and W. Schmidt.—p. 72.
Hepatic Infantilism. M. Pfaundler.—p. 78.
Untrainable Children. C. Pototzky.—p. 88.
*Toxic or Dynamic Protein Fever? A. Reiche.—p. 96.
*Leukocytes in Infants. S. Schmal et al.—p. 102.
*Leukocytes in Sick Infants. S. Schmal et al.—p. 128.
*Environment and Growth of Rats. H. Vollmer.—p. 205.
*Metabolism in Pylorospasm. H. Vollmer and J. Serebrijski.—p. 209.
Eggs to Combat Diarrhea in Infants. A. Ylppö.—p. 240.
Addition of Proteins and Pepsin Secretion. M. Comberg.—p. 249.
Adenoma of Pylorus. F. Demuth.—p. 252.
Prognosis of Congenital Renal Tumors. J. Sommer.—p. 256.

Action of Heat on Infants.—Demuth, Edelstein and Putzig kept six infants for three or four weeks in a warm room (84-89 F.). An acidotic shifting of the metabolism was the most striking change produced.

Signs of Birth Injury of Brain.—Dollinger attributes various motor irritation phenomena in infants (nystagmus, contractions of facial muscles) to cerebral injury suffered at birth.

Blood Chemistry of Scurvy.—Edelstein and Schmal found practically no changes in the dextrose and calcium concentration of the blood in guinea-pigs with experimental scurvy. The phosphates were lower in some of them, normal in others.

Treatment of Epilepsy.—Freudenberg's patient had no seizures when the sodium chloride concentration of his blood serum was below 0.5 per cent. He used a diet poor in salt and daily administration of 9 Gm. of sodium bicarbonate plus 1 Gm. of potassium bicarbonate to keep the blood chloride low.

Toxic or Dynamic Protein Fever?—Reiche found that even large amounts of proteins do not induce fever in infants, if administered with breast milk. He concludes that protein fever is of toxic, rather than of dynamic origin. It may be due to decomposition products, which can be neutralized by human milk.

Leukocytes in Infants.—Schmal, Schmidt and Serebrijski publish a detailed study on the leukocytes in normal and sick infants and children.

Environment and Growth of Rats.—Vollmer found that inhibition of movements, small cages and dirt slow down the growth of young rats. Daylight or darkness had no influence, but sensitization with eosin before exposure to light promoted the growth.

Metabolism in Pylorospasm.—Vollmer and Serebrijski investigated the metabolism in infants with pylorospasm. They found no signs of hyperirritability of the nerves, and they propound the question, why these patients have no spasmophilia. Another problem is that of a possible vicious circle: The vomiting entails alkalosis; the latter causes vagotonia, and this in turn may increase the irritability of the pylorus. The ammonia excretion was low—and absent in the two gravest cases. The ratio of basic (secondary) phosphates to the acid phosphates was always greater than that of the blood (1/7). This alkalinuria persists even after the vomiting has ceased. Only large doses of hydrochloric acid are able to correct this alkalinuria, and this not always. Hypercapnia—up to 114 volume per cent carbon dioxide—was constant. The hydrogen ion concentration of the blood was low in every grave case (p_H up to 7.51). The blood chlorides were low and the urine chlorides still lower. The calcium, potassium and phosphates of the blood were about normal. The hypoglycemia was probably due to alkalosis. They tested with dimethylamidoazobenzene how much hydrochloric acid could be added to the milk. Addition of 4 per cent of normal hydrochloric acid to breast milk, or 6 per cent, if some proteins are added, changes the color of the indicator. The taste of such milk is agreeably acid. It is quite helpful, although it does not restore normal conditions at once. They believe that the low blood chlorine, together with the low residual nitrogen account for the absence of symptoms of tetany in these infants. Many other problems are still waiting for solution; for instance, the peculiar predisposition of boys for pylorospasm.

Zeitschrift für Krebsforschung, Berlin

23: 89-159 (March 20) 1926

*Color Test for Cancer. A. H. Roffo.—p. 89.
Influence of Arsenic on Cancer. W. Schiller.—p. 99.
*Biochemical Reactions with Cancer. O. Boyksen.—p. 110.
Alleged Increase in Pulmonary Cancer. R. Breckwoldt.—p. 128.
Treatment of Cancer. H. Auler.—p. 153.
Origin of Cancer. E. Kliment.—p. 157.

Neutral Red Serologic Test for Cancer.—Roffo's test has been described in these columns recently. It is made with 5 drops of a 0.01 per cent solution of neutral red added to 2 cc. of clear serum. Normal serum turns it a yellowish tint. He calls attention anew to the simplicity of the test, the constantly negative findings in nonmalignant disease, and the 100 per cent positive responses with internal cancer.

Biochemical Reactions with Cancer.—Boyksen reports experimental and clinical inoculations with cancer autolysates, and experiences with the serum from animals thus treated.

Zeitschrift f. d. ges. Neurologie u. Psychiatrie, Berlin

100: 481-795 (Jan. 30) 1926. Partial Index

Correlations Between Physical and Mental Type. Ssucharewa and Ossipowa.—p. 489.
*Periodic Paralysis of the Extremities. T. Shinosaki.—p. 564.
Can Organic Disturbances Be Influenced by Suggestion, Hypnosis and Hypnosis During Effect of a Narcotic? Dattner and John.—p. 639.
The Dogma of the Incurability of Dementia Praecox. Morgenthaler.—p. 668.
*The Neuroglia in General Paralysis. S. R. Cajal.—p. 738.

Periodic Paralysis.—Shinosaki has encountered in Japan twenty-four cases of periodic paralysis of the extremities; in 62 per cent there was goiter, including 29 per cent of the exophthalmic type. He found that by giving the patients thyroid or parathyroid preparations he was able to bring on a paroxysm of the paralysis. An epinephrine injection in fifteen cases elicited the paroxysm of paralysis in 15 per cent; in one in this group, besides the paralysis, ventricular extrasystoles appeared, the same as in the spontaneous attacks. In only one case was there glycosuria during the intervals, but three other cases had glycosuria during the paroxysms of paralysis, and 73 per cent of the total had albuminuria during the attacks. In a number of the patients the oculocardiac reflex was pronounced. A family or hereditary tendency is not so constant as others have assumed. Charcot's "Basedow paraplegia" was probably a periodic paralysis occurring in exophthalmic goiter. The necropsy findings in the one case examined were of the exophthalmic goiter type, with hypertrophy of the parathyroids. All the data testify to a polyglandular affection, the thyroid predominantly involved. The

clinical picture is exactly the reverse of tetany, and the attacks are liable to be brought on by repose, and by overintake of carbohydrates; the latter may exaggerate parathyroid functioning. The first attack was noted at the age of 54 in one patient, but the majority were in the twenties; none was under 16.

The Necropsy Findings in General Paralysis.—Cajal discusses the technic for silver impregnation of pathologic nerve tissue, and the interpretation of the findings in the brain in general paralysis. He confirms the quantitative increase of the macroglia, and the transformation of the protoplasmic glia of the gray substance into fibrous glia. Areas are found in both the cerebrum and cerebellum in which the vascular lesions are pronounced while the nerve cells and fibers show little change, while in other areas exactly the reverse prevails.

Zentralblatt für Gynäkologie, Leipzig

50: 977-1040 (April 10) 1926

*Blood Sugar in Mother and Fetus. T. Révész and M. Turolt.—p. 985.
Pertubation. M. v. Scheller.—p. 990.
Oligohydramnios. K. Vorlaender.—p. 998.
*Habitual Abortion. J. Novak.—p. 1003.
Missed Labor. L. Stolper.—p. 1008.
Primary Abdominal Pregnancy. V. Waehneldt.—p. 1019.
Laceration of Tentorium in Cesarea Section. B. Tunis.—p. 1029.
"Medical Publications." T. Johannsen.—p. 1033.
Intraperitoneal Hemorrhage with Chorionepithelioma. W. L. Butomo.—p. 1034.

Blood Sugar in Mother and Fetus.—Révész and Turolt found less sugar in the blood from the umbilical artery than from the vein, and less in the latter than in the mother's blood.

Habitual Abortion.—Novak had good results with Lomer's treatment of habitual abortion. He gave small doses of iodides (20-10 drops of a 1 per cent solution of potassium iodide) and two Blaud's pills daily during the pregnancy. It helped in four, evidently nonsyphilitic cases.

Prophylaktitcheskaia Medicina, Kharkov

5: 1-176 (March) 1926. Partial Index

*The Hemolytic Scarlet Fever Streptococcus. N. Kniazeff and L. Alexandrova-Portniagina.—p. 10.
Occupational Injury from Dust. F. Prinzing.—p. 115.

Hemolytic Properties of Scarlet Fever Streptococci.—Kniazeff and Alexandrova-Portniagina found hemolytic streptococci in the throat of about 50 per cent of scarlet fever patients; in the cerebrospinal fluid and blood of 3 per cent of patients with a grave form of scarlet fever, and always in the blood of cadavers. At the onset of the disease the hemolytic streptococci were much more frequent in the severe form than in the mild, or in convalescents. Hemolytic streptococci were detected in about 7 per cent of healthy children (from 18 months to 14 years old), in none of eight cases of other infectious diseases, and in 10 per cent of persons in contact with scarlet fever patients. Within the first days of the disease, all the streptococcus colonies displayed a hemolytic property, but lost it gradually. The hemolytic power of the streptococci disappeared completely by the fourth week of the disease. On the other hand, the number of nonhemolytic strains increased correspondingly. In artificial nutrient mediums, the streptococcus seemed to conserve its vitality and hemolytic potency for four months. The associated microbes did not seem to influence the hemolytic property of the scarlet fever streptococcus. Changes of hemolysis were noted in bouillon cultures of the streptococci after blood from scarlet fever patients had been added.

Acta Medica Scandinavica, Stockholm

63: 301-424 (April 14) 1926

*Air Embolism in Pneumothorax. A. F. Lindblom.—p. 301.
Acidosis. G. Becker.—p. 313.
Blood in Chronic Endocarditis. O. Ottander.—p. 336.
Hallucinations in Hemianopia. A. Grönberg.—p. 355.
*Nitrites in the Urine. E. B. Salén.—p. 369.

Air Embolism in Pneumothorax.—Lindblom's patient died from air embolism a few seconds after the introduction of a closed needle. The instrument had pierced a small vein, and the air had been driven into it by a cough.

Nitrites in the Urine.—Salén confirms the occurrence of nitrites in the fresh urine in the presence of certain germs, especially the colon bacillus, in the urinary tract. Yet he doubts the value of the test except for preliminary orientation. The nitrites may cause a positive guaiac test even without addition of peroxide.

Norsk Magazin for Lægevidenskaben, Oslo

87: 257-352 (April) 1926

*Ovarian Endometriosis. C. Semb.—p. 257.
*Alkali Treatment for Nonhealing Fractures. E. Platou.—p. 287.
Extract of Lung Tissue in Therapeutics. Mentz von Krogh.—p. 294.
*Fracture of Cervical Vertebra. K. Haugseth.—p. 298.
Dietetic Treatment of Diabetes. H. C. Geelmuyden.—p. 300.

Heterotopic Endometrial Implants.—Semb comments on the great variety of organs in which this endometriosis develops. The adenomyomas containing tissue resembling uterine mucosa do not fit into any known class of tumors. They represent actual endometrium outside of the uterus, and behave as such. He found them in 5.5 per cent of 126 ovarian tumors, corresponding to 10 per cent of the benign cystic tumors of the ovary examined. In six other cases, they were found on the intestine, exterior of the uterus, ligaments or tubes. He tabulates the findings in the seven ovarian cases. Extensive formation of bands and adhesion to the peritoneum was constant, evidently secondary, testifying with other findings to an exceptionally irritating action from the contents of these cysts, all of the tar-cyst type. No other cause for the adhesions could be detected. In one virgin, they filled the entire small pelvis. The clinical picture in all was that of chronic pelvic peritonitis. Only two of the women were married. Nothing indicated malignancy in these cases.

Alkali Treatment of Pseudarthrosis.—Scarcely a trace of callus formation was evident even by the sixth month after the fracture, although the conditions had been ideal for consolidation. Platou then gave the man sodium bicarbonate as if he had diabetes. In two months, consolidation was complete. This treatment was suggested by Frølich's success in the opposite line, curing a boy with a grave case of ossifying myositis by inducing acidosis. It is a common experience that fractures do not heal well in diabetics with acidosis.

Fracture and Dislocation of Cervical Vertebra.—In Haugseth's case, laminectomy cured the grave spastic paralysis after fracture of the fifth vertebra with dislocation of the fourth.

Ugeskrift for Læger, Copenhagen

88: 287-310 (March 25) 1926

*Diastase in the Urine. J. Fabricius-Møller.—p. 287.
Metal Salts in Therapeutics. L. E. Walbum.—p. 298. C'en.
Extraction of Teeth in General Anesthesia. M. Melchior.—p. 303.

Diastase in the Urine.—Fabricius-Møller found unusual amounts of diastase in the urine in twenty-three cases of tenderness in the region of the pancreas. In eight of the cases, disease of the pancreas was confirmed by operation or necropsy. In seven there was mild pancreatitis or merely compression from a gallstone, and the diastase and the tenderness disappeared after the jaundice had subsided or the gallstone been passed in the stools, or both. The diastase content ranged from 250 to 16,000 units in this group. In three other cases the diastase content ranged from 200 to 1,000 after subsidence of a mild pancreatitis under medical measures alone. In another case of 500 diastase units, there was a juxtapyloric ulcer; in another with 250 there was jaundice from gallstones or cancer metastasis, and in one with 300, cholecystitis was beyond question. In this last group of eight cases, pancreas disease was not certain but it was equally difficult to affirm that the pancreas was sound. Clure and Pratt regard up to 500 as the physiologic range, while others accept 120-150 as the upper limit. In twenty-four cases of gallstone jaundice with no signs of injury of the pancreas, the diastase was within the normal range. In only three of 200 persons with surgical affections not involving the pancreas was the diastase between 120 and 150; all the others were below this figure. He has simplified the usual test for diastase and emphasizes the instructive response in acute abdominal affections. The findings may be misleading after ether anesthesia.